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SURE METHODS

OF

IMPROVING HEALTH,

AND

PROLONGING LIFE;

OR,

A TREATISE

ON THE ART OF

(Deo Volente)

LIVING LONG AND COMFORTABLY,

BY REGULATING

THE DIET AND REGIMEN.

EMBRACING ALL

THE MOST APPROVED PRINCIPLES OF HEALTH & LONGEVITY,

And exhibiting particularly the remarkable power of

Proper Food, Wine, Air, Exercise, Sleep, &c.

IN THE CURE OF OBSTINATE CHRONIC DISEASES, AS WELL AS IN PROMOTING HEALTH AND LONG LIFE.

TO WHICH ARE ADDED,

The Art of Training for Health, Rules for Reducing Corpulence, and Maxims of Health for the Bilious and Nervous, the Consumptive, Men of Letters, and People of Fashion.

ILLUSTRATED BY CASES.

BY THOMAS J. GRAHAM, M. D.

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PREFACE.

THE following sheets have been written with the view of making the reader acquainted with the best and most certain means of improving his health, and prolonging his life, objects which all men consider of vital importance, although too few care to make themselves acquainted with the measures by which they are to be accomplished, and still fewer to follow those measures when known. This inconsistency is common to human nature; but the present author is persuaded there are many persons who only require to be impressed with the fact, that there are

certain means (under Providence) of insuring a freedom from disease, and a long life, in order to their making a proper use of them, and it has, therefore, been a principal object with him, so to treat his subject throughout, as to prove by incontestible evidence, not only that the methods recommended are valuable, but also that they are in reality equal to the accomplishment of the objects proposed. He has, consequently, introduced the opinions and practices of many persons of high respectability and credit, both professional and unprofessional, with their happy results, and likewise cited many striking cases, all illustrative of the remarkable power of a correct diet and regimen in the preservation of health, the acquisition of strength, the cure of chronic disease, and the prolongation of life. It has been the aim of the

author to avoid the introduction of any thing irrelevant, superfluous, or doubtful, and even of that which is of inferior value, and to confine himself to an investigation of the undoubted sources of human health and longevity, and an explanation of the means by which these ends may be attained, with the greatest ease and certainty. On all subjects like the present, practical information, deduced from accurate and extensive experience, is alone of much real value, a fact which the author has endeavoured constantly to keep in view, in the composition of this volume; and he may add, that in no instance has he delivered an opinion which has not been verified, either by personal observation or *feeling*, or sanctioned by the authority of professional men, distinguished for judgment and ability. Much that the

reader will find here, the author has been taught by experiment on his own person, and he can with much truth and satisfaction declare, that since he adopted the means now recommended, his health has been greatly benefited, and the probability of a lengthened existence considerably augmented. He trusts, therefore, that he may with propriety designate the present observations as SURE METHODS of attaining health and longevity.

It is proper to remark further, that a larger space has been allotted to the consideration of *Exercise*, than to that of any other subject, because the author considers it the most important. It appears to him the most important for two reasons, the one is, on account of its general neglect, the other, because of its uncommon utility. Perhaps a third reason might

with much propriety be added, viz. the unusual stress laid on *diet.* In reference to the latter reason, it ought to be observed, that no one has a stronger conviction of the value and necessity of attention to diet than the present author, but in all sciences we must learn to distinguish the relative value of different agents, if we would apply them with the best effects. In the directions now given by physicians for the preservation of health, and the cure of disease, so much stress is laid on diet, that regimen (of which exercise is the chief branch) is too often overlooked. It is not meant that it is entirely neglected, but that *it does not gain the degree of attention which it merits.* It is true, that a strict and spare diet is at this time found by almost every one to be useful, and by vast numbers absolutely neces-

sary; but this is an unnatural state, imposed on man in the present day, because his physical energies are greatly impaired by sedentary and artificial habits, and his stomach, consequently, is not able to bear food in that quantity, or of that quality, which our forefathers fed upon with satisfaction and advantage. This scanty diet however, carries with it no adequate remedy for the evils of a sedentary mode of living. It is the "debauchery of inaction," and not of repletion, which has spread itself so extensively throughout this nation, and produced so alarming an increase of chronic diseases; and it is only by a return to active bodily exertion that we can reasonably hope to rise above this unnatural condition. It is, therefore, evidently of primary importance, to direct the public to active exercise in the open

air, as a means which will afford such permanent tone and vitality to the solids, and such perfect purity to the fluids; in short, which will so restore and establish the physical energies of the whole frame, as to render it, in a very great measure, superior to the deteriorating influence of external agents, and even to diet itself.

1*st March*, 1828.

The author would here remark, that it is his intention to prepare for the press without delay, a detailed account of the opinions, and mode of life, of those persons who have been most remarkable for their excellent health, and extreme old age, so as to exhibit abundant practical proofs of the correctness of the observations contained in the following sheets.

It will also embrace authentic cases of recovery from many severe and protracted diseases, with the means successfully employed—the whole illustrated by notes and observations. This will be a small work of very moderate price, forming a sort of appropriate supplement to the present volume. Its title will be "A CIRCUMSTANTIAL ACCOUNT OF PERSONS REMARKABLE FOR THEIR HEALTH AND LONGEVITY."

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THE ART

OF

IMPROVING HEALTH

AND

PROLONGING LIFE,

BY REGULATING THE

DIET AND REGIMEN.

INTRODUCTION.

It is known that the celebrated Galen was born with an infirm constitution, and afflicted in the early part of his life with many and severe illnesses, but having arrived at the twenty-eighth year of his age, he was brought, after due observation and consideration, to believe, that there were sure methods of preserving health and prolonging life, and having resolved to live thereby, he observed them so carefully, as never after to have

laboured under any disorder, except, occasionally, a slight feverishness, for a single day, owing to the fatigue which attending his patients necessarily brought upon him. By these means, he reached the great age of one hundred and forty years. We are certain, also, that the noble Venetian Cornaro, perfectly restored his health, after the age of forty, and prolonged his life to above a hundred years, by living according to the same rules. At the age of forty, irregularity and disease had brought him apparently to the very gates of death, from which a correct mode of living so entirely delivered him, that he became hearty and strong, and always spoke with uncommon satisfaction of the constant serenity of mind he consequently enjoyed. Admiral Henry, of Rolvenden, in Kent, (who is, I believe, now living,) was, as late even as his fiftieth or sixtieth year, almost a martyr to various chronic diseases, and had been made a cripple by them, but was entirely restored by carefully and perseveringly observing a proper course

of living. Some years ago, he had reached the age of ninety-one, and was then totally without complaint, and could walk three miles to the neighbouring town of Tenterden, without stopping. Such are a few of the many examples which might be produced, proving the extraordinary and almost incredible power of a correct diet and regimen, both in the prevention and cure of disease, and the prolongation of life. The nature of this diet and regimen, with its admirable suitability to the accomplishment of these most desirable ends, it is my object to explain in the following pages, and to illustrate by numerous authentic and striking examples; and I think these brief introductory remarks cannot be better concluded, than by assuring my readers, in the language of Galen, that "*by a diligent observation and practice of these rules, they may certainly enjoy a good share of health.*"

CHAPTER I.

OF DIET.

Food is of two kinds, solid and liquid, which, for the sake of convenience, I shall consider in separate sections.

SECTION I.

OF SOLID FOOD.

All food is either of animal or vegetable origin. The former is, no doubt, more allied to our nature, and most easily assimilated to its nourishment; the latter, though digested with more difficulty, is the foundation of the former, as vegetables are the nourishment of animals, and all food may, therefore, be said to be derived from this source. In many respects, however, animal and vegetable food differ, and this difference it is proper to remark,

according to the various effects it displays on different parts of the human system, before we proceed to notice each kind separately.

Animal food is highly favourable to labour, or great corporeal exertion. We can subsist longer upon it, without becoming hungry, than upon vegetables, and derive, in most instances, greater strength from it. Where men are exposed to constant toil and exertion, or to extreme cold, they frequently require a more ready, condensed, and substantial nourishment, than vegetable aliment can bestow. As animal food consists of parts which have been already digested by the proper organs of an animal, and applied to the same uses, it consequently requires only solution and mixture, whereas vegetable food must be converted into a substance of an animal nature, by the proper action of our own viscera, and, therefore, requires more labour of the stomach and other digestive organs. It is for these reasons, that the dyspeptic, the bilious, and the nervous, whose organs of digestion are weak, find,

in general, animal food the most suitable; that those who live chiefly on flesh meat, can longer endure personal exertion than such as live upon vegetables alone; and that men inhabiting northern regions, where the vigour of the system is liable to be much weakened, and even exhausted, by extremes of temperature, and especially by the depressing agency of cold, require large quantities of animal food, as being the most stimulant and invigorating, in order thereby to counteract the injurious effects of their climate.

On the other hand, it must be confessed that, in temperate climates at least, an animal diet is, in one respect, more wasting than a vegetable, because it excites by its stimulating qualities, a temporary fever after every meal, by which the springs of life are urged into constant, preternatural, and weakening exertions. Again, persons who live chiefly on animal food are subject to various acute and fatal disorders; as the scurvy, malignant ulcers, inflammatory fevers, &c.; and are likewise liable to corpulency, more especially

when united to inordinate quantities of liquid aliment. There appears to be also a tendency in an animal diet to promote the formation of many chronic diseases; and we seldom see those who indulge much in this diet, to be remarkable for longevity.

In favour of vegetables it may be justly said, that man could hardly live entirely on animal food,* but we know he may on vegetable. Vegetable aliment has likewise no tendency to produce those constitutional disorders, which animal food so frequently occasions, and this is a great advantage, more especially in our country, where the general sedentary mode of living so powerfully contributes to the formation and establishment of numerous severe chronic maladies. Any unfavourable effects vegetable food may have on the body, are almost wholly confined to the stomach and bowels, and rarely injure the system at large. This

* A man was prevailed on to live upon partridges, without vegetables; but was obliged to desist at the end of eight days, from the appearance of strong symptoms of putrefaction.

food has also a beneficial influence on the powers of the mind; and tends to preserve a delicacy of feeling, a liveliness of imagination, and acuteness of judgment, seldom enjoyed by those who live principally on meat. Dr. Cullen observes, "Vegetable aliment, as never over-distending the vessels, or loading the system, never interrupts the stronger motions of the mind; while the heat, fulness, and weight of animal food, is an enemy to its vigorous effects." And Franklin states, that, in his younger days, he took entirely to a vegetable diet, and found his progress in study to be proportionate to that clearness of ideas, and quickness of conception, which are the fruits of temperance in eating and drinking. It should be added, that a vegetable diet, when it consists of articles easily digested, as potatoes, turnips, bread, biscuit, oatmeal, &c. is certainly favourable to long life.

There are objections, however, to vegetable food, the principal of which are, its constant tendency to strong acescency, or sourness and tartness, which is highly

injurious; its being with greater difficulty reduced to nourishment, or assimilated to the nature of man, an objection much felt by those who have weak stomachs, though the vigorous and robust are not affected by it; and its extricating a considerable quantity of air, by which the stomach becomes distended, and much uneasiness is produced.

From the preceding facts we rightly infer, that the combination of an animal and vegetable diet is, in general, best suited to preserve a perfect state of health and strength, and, as society is now constituted, to conduce to longevity. It has been correctly remarked, that the perfection of man's character also requires this mixture. For while the Tartars, who live almost wholly on animal food, possess a degree of ferocity of mind, and fierceness of character, which form the leading feature of carnivorous animals; the entire vegetable diet of the Brahmin and Hindoo, on the other hand, gives to their character and feelings, a gentleness, softness, and mildness, directly the reverse

of the Tartar, but with little elevation of mind; whereas, a proper mixture of both these kinds of aliment, forms individuals whose functions, both personal and mental, attain their highest state of perfection.

The proportion of this mixture, is sometimes a matter of importance to the invalid, and persons of a weakly habit, and the circumstances which ought to guide them in this particular, may be pretty well ascertained from a consideration of what has just been said. It will be perceived, that it must depend chiefly on the bodily health of the individual, his occupation, and the nature of the climate.

In regard to health, the valetudinarian will often find that a small proportion of animal food is the best for him, and especially if he labours under any positive* disease, or a tendency thereto. In such

* By positive disease is meant, a complaint which is associated with some alteration of structure, or a change approaching to it, and which does not consist in a simple derangement of function, or the absence simply of a healthy action of the organs affected. For example, the majority of cases of dyspepsia, or indigestion, and bilious disorder, are, particularly in the commencement, merely disorders of function—there is only the absence of health;

a case, there is more or less feverishness, and all the secreting surfaces are, so to speak, bound up; a condition which an animal diet, from its stimulus, has a strong tendency to maintain and increase, and the mild, bland nature of vegetable food contributes to overcome. In the gout, for instance, a large proportion of vegetable food is, for the most part, to be recommended, particularly in the earlier attacks, and in plethoric habits. On the contrary, in those nervous and bilious complaints which consist in a simple derangement of the functions of the stomach and small intestines, (and such are the generality of these maladies,) a diet chiefly of animal food is found the best, because it is more easily digested than vegetables; in other words, it does not require the exertion of so great a power in the weakened organs of digestion, while there is nothing in their condition to contraindicate its employment: but on this subject I

but if they proceed unchecked and unalleviated, some change in the texture of the stomach, bowels, head, or other part, may be superinduced, and then we have a positive disease.

need not say more, since it is one in which the skill of an enlightened physician is generally requisite.

Where little bodily exertion is employed, much animal food is improper, as it will load the body and oppress the mind; but when the bodily exercise or labour is constant and great, the use of animal food ought to be liberal, and even the vegetables used should be of the most nourishing or farinaceous sorts. We see, therefore, that a vegetable diet is the best for the studious.

I have already remarked, that climate should make a great difference in the relative proportions of animal and vegetable food consumed by man. In warm climates, the latter ought greatly to preponderate; while in cold regions much animal food may be taken with advantage. And in Great Britain the different seasons should be attended with a suitable change in this respect. In the summer, our diet should be almost wholly vegetable, at least during the hottest months, and especially with the plethoric; while in the

winter, we may safely recur to a proper mixture of both kinds of food.

It is worthy of observation, also, that vegetable food is much the best for children, after they have done with their nurse's milk, and, indeed, for young people in general, to whom a great deal of meat is highly pernicious.

Having now made a few necessary observations on the preceding points, I shall proceed at once to point out the qualities of the chief articles used as food by man, both animal and vegetable, with the proper times of eating and drinking, and the quantity best adapted to the purposes of health and longevity; in order that those who are earnestly desirous of becoming acquainted with the art of living long and comfortably, and of adhering thereto, may not be at a loss on any point of consequence relating to so material a branch of that art as diet.

1. OF ANIMAL FOOD.

The animals most commonly killed for the purpose of food, are the *common bull and cow*, the *sheep*, the *calf*, the *lamb*, the *common stag*, the *fallow deer*, the *domestic boar and sow*, the *hare and rabbit*, the amphibious animals the *turtle and frog*, and various kinds of birds and fishes.

Bull beef is rarely eaten on account of its dry, tough, and indigestible nature; but the flesh of the ox, or castrated animal, called *ox-beef*, is a highly nourishing and wholesome food, readily digested when fresh, by healthy persons, and constituting a principal part of the common diet of the inhabitants of this and many other countries. It is the most strengthening of all kinds of animal food, and is almost the only species of such food that is in season throughout the year. Cow-beef is not so tender, nor so nourishing, nor so digestible as ox-beef.

Mutton is well known to be a highly nutritious and wholesome meat. It appears

to be the most digestible of all animal food, and is perhaps more universally used than any other. Wether mutton is most esteemed, as being in general by far the sweetest and most digestible. Ewe mutton, if it is more than between three or four years old, is tough and coarse, but it is said, that a ewe that has not had a lamb the season before she is killed, yields as good mutton as a wether of the same age; the quality of the flesh, however, depends in a great measure on the nature of the pasture. Wether mutton, when fed on a dry pasture, near the sea shore, and at five years of age, is in its highest state of perfection.

Veal, although affording less nutriment than the flesh of the full-grown beast, is tender and nourishing; but is not so easily digested, nor so well suited to weak stomachs, as is commonly imagined. Indeed, in all stomach complaints, it is altogether improper, more especially when minced. It is not, however, of a very heating nature, and may therefore be allowed to patients convalescent from an attack of

fever or inflammation, in preference to beef or mutton, and also to those who have a disposition to bleeding from the lungs, or elsewhere, especially with the addition of some acid. The juicy kidney-piece, or the breast of veal, deserve the preference of the valetudinarian. The flesh of calves which have been robbed of their blood by repeated bleedings, or reared by the hand with milk adulterated with chalk, and confinement in small dark places, so as to prevent all motion, is much depraved, being less wholesome and digestible than that of the healthy animal just taken from the cow.

Lamb being less heating and less dense than mutton, is sometimes better suited to persons convalescent from acute diseases, but, by the majority of patients labouring under indigestion, or any other severe affection of the stomach, it is not found so digestible as wether mutton. It is, however, a light and wholesome food, especially when the lamb is not killed too young: from five to six months old is the best age. House-lamb is a dish es-

teemed chiefly because it is unseasonable. Like all animals raised in an unnatural manner, its flesh is depraved and unwholesome.

The flesh of the *common stag* and *fallow deer*, is well known under the name of venison, and is very digestible, wholesome, and nutritious. The common stag should not be killed till he is above four years old, and the flesh is fattest and best flavoured in the month of August. That of the fallow deer, is, however, on the whole, the best.

Good *pork* is a very savoury food, and affords strong nourishment, suited to persons who lead an active or laborious life, but is not easily digested, nor can it be considered wholesome. The too frequent and long continued use of this meat favours obesity, produces foulness of the stomach and bowels, and occasions disorders of the skin. Some writers think that pickled pork is the best mode of using this sort of meat, but this appears to me an error, and I think it will be found, that the salt instead of making it more digestible, ren-

ders it less so, and also less wholesome. With some delicate people it immediately affects the bowels in rather a violent manner. The flesh of the sucking pig is reckoned a great delicacy, is very nourishing, and perhaps more wholesome than that of the full-grown animal; but it is not readily digested, and is not proper for the weak or sickly. Bacon is a coarse, heavy, and very indigestible food, only fit to be eaten by robust and labouring people. All valetudinarians should partake very sparingly of ham, even when of the best sort. Those who have an impure state of the fluids, wounds, or ulcers, or a tendency to cutaneous eruptions, as well as those afflicted with indigestion, cough, or consumption, should refrain from the use of pork.

The *hare* and *rabbit* are sufficiently wholesome and nutritious. The flesh of the rabbit is softer, more digestible, and less heating, than that of the hare; but it is not so nourishing. The leveret is much the best for the valetudinary. Wild rabbits are not only more digestible, and

palatable, but likewise more wholesome, than such as are domesticated. In the opinion of the present author, these animals, although very wholesome and digestible, yet cannot in these respects be compared to mutton or vension, particular for delicate persons.

The *turtle*, when dressed in its natural state, is a most nourishing and palatable food; and the esculent frog tastes much like chicken.

Of *birds*, the following species afford excellent nourishment, and are, for the most part, easily digested, viz:—the common fowl, partridge, pheasant, turkey, Guinea hen, and quail, and the common pigeon, lark, thrush, and fieldfare. These birds, in point of digestibility, rank nearly as they are here placed, the barn-door fowl being the most delicate and digestible, particularly when about a year old, and allowed freely to range about. Capons, more especially *poulardes*, or hen capons, are accounted particularly delicate, and well calculated for invalids. The woodcock, snipe, and grouse, furnish

excellent and savoury food, and are very easy of digestion.

The goose is fit only for strong stomachs, and those who labour hard. The tame duck is much more wholesome than the goose, when properly fed, and kept not on stagnant, but near running waters; yet it is not very easy of digestion, particularly the fat parts. Wild water-fowl cannot be much recommended, being generally heavy and indigestible. The teal is reckoned the best of this kind of fowl.

It is very probable that the *eggs* of all the birds now mentioned, and perhaps of most others, might be employed as food, but the preference is justly given to those of the common hen, the Guinea hen, and the duck. The eggs of these birds, and especially of the domestic fowl when new laid, yield a mild, demulcent, and strengthening aliment, well calculated for consumptive and delicate persons, and such as are exhausted by immoderate evacuations, or intense study. When properly cooked, as, for instance, boiled for two minutes and a half, or very lightly poached,

very few things equal them in point of facility of digestion. If boiled hard or fried, they sit heavy on the stomach, and are unwholesome, at least to invalids. Raw eggs are highly nutritive, gently laxative, and of service in cases of jaundice, and weakness and disorder in the digestive organs. Among some persons, a notion prevails that eggs are improper for the bilious, but it is incorrect.

The wholesomeness of *fish* in diet has been much disputed. To many, it forms a most delicious food, but, in the opinion of the present author, it affords little nourishment,* and is, for the most part, of difficult digestion, and this I think to be the general sentiment of intelligent medical men. Dr. Paris, indeed, in his treatise on diet, seems disposed to consider it as easy of digestion, but I have been long convinced to the contrary, and am persuaded that most invalids will verify

* As a proof how little nutritive substance is to be found in fish, it may be observed, that the jockeys, who, to reduce their weight, *waste themselves* at Newmarket, are not allowed meat, nor even pudding, when fish can be got.

my conviction. An able reviewer (Dr. Johnson) of Dr. Paris's book, believes all fish digested with difficulty. Being of all animal substances the most putrescible, it is much inferior in quality to birds and quadrupeds, and, on this account, it appears questionable whether it ought, at least in many cases, to be allowed to febrile patients, or convalescents from acute diseases. The fat of fish is still more insoluble and indigestible than that of other animals, and readily turns rancid. Acid sauces and pickles, calculated to resist putrefaction, render fish somewhat better, and more wholesome for the stomach, while butter has a tendency to impede digestion, and to promote the corruption of its flesh; on the contrary, spice and salt, used in moderate quantities, stimulate the fibres of the stomach, and facilitate the digestive process. I think good catsup to be among the most wholesome and best of sauces for fish.*

* It is worthy of remark, that fish and milk ought never to be taken at the same meal, being a particularly indigestible combination.

Salt-water fish are the best of any, as their flesh is more solid, more agreeable, and healthy, less exposed to putrescency, and less viscid. They possess these desirable qualities, when fresh; when salted, they have all the properties of salt fish, and consequently its disadvantages. Those fish which have scales are, in general, the most easily digested, and the best; and of all these, the fresh herring appears to deserve the preference. The herring, the whiting, the sole, the cod, the dory, the turbot, and the flounder, are perhaps the most digestible and most wholesome of fish. Salmon, mackerel, skate, and sturgeon, with lobster, and most other kinds of shell fish, are digested with difficulty, and not wholesome. The valetudinary should avoid them.

Oysters form an exception to the remark just made respecting the objectionable qualities of shell fish, they being, when eaten raw, highly nutritious, and of very easy digestion. They may be taken with great advantage by the robust as well as

the weak and consumptive;* and are well adapted as an article of diet for those liable to costiveness, as they are generally attended with a laxative effect. By being cooked, they are hardened, and likewise deprived of the salt water, which promotes their digestion in the stomach. Stewed oysters are particularly indigestible and unwholesome, and should never be eaten by the sick, or the delicate. To lying-in women they are extremely pernicious.

It will now be necessary to notice some of the miscellaneous animal products, of a solid kind, the chief of which are butter, cheese, curds, and honey.

Butter, fresh and well made, and taken in moderate quantities, spread cold on bread, is nutritious, and, in general, not difficult of digestion; but if eaten very freely, it is certainly pernicious, par-

* They are highly worthy of the attention of the consumptive, and will, to them, prove at once both medicine and food, as they possess considerable effect in allaying those warm flushings of the face, heat in the hands, and other feverish symptoms, usually felt in declines, at the same time that they are savoury, digestible, and nutritive.

ticularly to such persons as have weak digestive organs. Melted butter, and salt butter, are unwholesome.

Cheese is digested with difficulty. Many suppose it to assist the digestion of other food, but I think this is a mistake. In some cases, where too much food has been taken at dinner, it has the power of allaying the present uneasiness in the stomach, thereby occasioned; but it is at least very questionable, whether it in any degree promotes the digestive process. It is a difficult question to determine satisfactorily, but in my opinion the real fact is, that it impedes the subsequent digestion of the food. It cannot be considered very nutritious, and being the coarsest and most glutinous part of the milk, is an aliment suited only to strong stomachs, and to such persons as use great and constant exercise. It is of a constipating nature, and should be altogether avoided by those of a costive habit of body. A good deal of salt should always be eaten with it. Cream cheese, and

toasted cheese, are still more indigestible and unwholesome.

Curds are not to be recommended. Taken in considerable quantity, they are highly oppressive to the stomach.

Honey is nutritive, and to those who take much exercise abroad, is sufficiently digestible and wholesome, if used moderately. If more than a small quantity be taken, it is apt, like all other sweet things, to cloy the stomach. Sir John Pringle used to recommend it very strongly, and considered it worthy of being called, the juice of long life, but this was going much too far. It ought never to be eaten without bread.

Blanc-mange is a solid animal product, much recommended to the sick and delicate, but is not at all suited to their state, being digested with some difficulty, and apt to disorder the stomach. It is best when eaten with biscuit or stale bread.

The following are some general considerations, respecting the use of animal food, which I think deserving notice.

1. In the choice of animal food, we should always consider whether it is in season or not, for the same sort of meat which at one period of the year is good, may at another be hurtful. The proper season for each class of animals is, when their natural nourishment is in greatest plenty. 2. It is likewise advisable, especially in the case of invalids, to have a regard to the season of the year, as it respects the kind of animal food eaten, selecting in the spring and summer that meat which is easiest of digestion and least heating. The best time for the consumption of fish, is in the summer. 3. In choosing animal food, particularly beef, always look out for that, the flesh of which is finely marbled, because this is one of the strongest proofs that the animal has been properly fed, and has not been deprived of its natural exercise, a sufficient degree of which is essential to the wholesomeness and perfection of the flesh. When animals are confined in a stall, and hastily fatted, the fat, instead of being equally dispersed through the mus-

cular parts, invariably accumulates in the cellular membrane, and therefore appears chiefly or wholly in a few places. 4. Animal food whose fibres have little fluid between them, that is, dry meat, is more indigestible than moist. For this reason, lean animals are harder of digestion than fat ones, and the lean part of fat meat is, therefore, the best. 5. Meat should always be kept some time before it is dressed, in order to its becoming tender, juicy, and easy of digestion.

2. OF VEGETABLE FOOD.

The various articles of nourishment we derive from the vegetable kingdom, may with propriety be divided into five orders, viz. 1. The different species of farina, or grain, such as *wheat, rye, barley, oats,* and *rice;* 2. The legumes, or pulse, such as *peas, beans, &c.;* 3. The various kinds of *salads* and *pot-herbs;* 4. All the different kinds of *roots;* and 5. *fruits.*

The farinaceous vegetables are, of all others, the most wholesome and nourish-

ing, and of these the preference is justly given to *wheat*. Bread is with propriety called *the staff of life*. Home-made leavened bread, of a day or two old, is extremely easy of digestion, wholesome, and nutritious; but we cannot speak in so favourable terms of baker's bread, and new bread of any sort is difficult of digestion, and unwholesome. It is of some consequence, that the invalid should have home-made bread. Bread made with new flour, is more palatable than that made with old, but is not so digestible. Of the two sorts of bread, viz. the fine white bread, and the coarse brown bread, the latter is the most easy of digestion, and the most nutritive. This is contrary to the general belief, but is proved by the fact, that a dog fed on the former, with water, both at discretion, does not live beyond the fiftieth day; but if fed on coarse bread with water, precisely in the same manner, he preserves his health. A mixture of rye-flour and wheat-flour, in equal proportions, or as one-third of the former to two-thirds of the latter, forms

very good bread, and is particularly eligible for the costive.

There is no sort of unleavened bread which is wholesome, excepting biscuit. Plain biscuit is very proper for the sick and delicate, from being lighter, and less liable to create acidity and flatulence, than even good bread. The best biscuits, however, are not those which are made with the finest flour, for the reason just adduced.

Puddings made with flour are, for the most part, wholesome, when taken in moderate quantity, but are not so easy of digestion as bread, or animal food. The simpler the pudding is, and the nearer it approaches to the nature of bread, the more digestible and wholesome it is. All puddings formed with much fat or butter, or mixed with fat in the cooking, are to be avoided by the invalid as indigestible. Pastry can be taken with impunity only by those accustomed to labour hard; the sedentary and the invalid find it very difficult of digestion, and unwholesome. It is best cold, particularly if two or three days old.

Barley is a nutritious, wholesome, and very useful vegetable. Pearl barley, well boiled in water, forms a diluting, slightly nutritive drink, of much service to all sick persons. In the summer, it is a very wholesome drink for persons generally.

Oats, when boiled or deprived of the husk, and reduced to groats or meal, are used as a common article of diet for the infirm and sick, in Great Britain, France, and Germany. About fifty years ago, it was calculated, that nearly a fourth part of the inhabitants of Great Britain lived upon oat bread; and it is supposed, that under an improved system of agriculture, more nourishment per acre may be obtained from oats, than from the same quantity of barley or rye; but to wheat it is evidently inferior. Boiled in water, oats impart a thick mucilage, which is very nourishing, wholesome, and digestible. This refers only to the mucilage obtained from genuine groats, or oatmeal, procured from a mealman who can be depended upon; as the oatmeal in common use is, I am sorry to say, too frequently

an impure article; and it is to be feared, that all *patent prepared groats and meal*, as they are called, are adulterated, and not worthy of confidence.

Rice is a nutritious and wholesome vegetable. It is easy of digestion, when taken in conjunction with some condiment, as cinnamon, nutmeg, allspice, and the like; these additions make it more palatable as well as more wholesome, and obviate its tendency to confine the bowels. It is almost the only food of the native inhabitants of India, Burmah, and other populous Eastern countries, which renders it probable, that it furnishes subsistence to greater numbers of human beings than all the other grains put together.*

All vegetables of the pulse kind are liable to strong objections, as articles of diet for civilized man. They are very indigestible, heating, productive of great flatulency, and contain little nourishment. Both peas and beans, whether green or

* Ale should never be drank after rice and milk, as it is almost certain of producing colic, or some other disorder in the bowels.

dried, oppress the stomach, and are fit to be eaten only by the strong and laborious, or those who take much exercise. Pea-soup, although most grateful in cold weather, is very indigestible and unwholesome, at least to all but the robust, who use much active exercise abroad.

French Beans, however, are among the best vegetables our gardens produce. I mean the young green pod, eaten as it usually is in England.

The best pot-herbs are *asparagus* and *artichokes*, more especially to those troubled with gravel. Young spring greens and cabbages are wholesome, but after the spring season they become indigestible, flatulent, and pernicious. Young brocoli and cauliflower also are useful vegetables; but I think spinage rarely agrees with the human stomach.

Salads, lettuce, and all undressed vegetables of this kind, contain little nourishment, and are not much to be recommended. The bitterest sorts are the most wholesome and digestible. Radishes and cucumbers should not be touched by the

weakly, or the invalid. Lettuce is the most wholesome of this description of vegetable, and when blanched, from being soporific, may sometimes be advantageously used at supper, by those who are frequently disturbed by restless nights.

The fourth order of vegetables consists of all the esculent roots, of which the *potatoe*, the *turnip*, and the *onion*, are the most wholesome and nutritious, and the most easy of digestion. We may consider it as an unerring rule, that any kind of aliment for which we feel a natural and permanent appetite, is salutary, and conformable to our nature. Of this kind is that invaluable root the potatoe, which, in the most simple preparation, and without any addition but salt, affords an agreeable and wholesome food to almost every person. It is the best substitute we possess for bread, being a light, alimentary substance, neither viscid nor flatulent, and having little tendency to acidity. It is, consequently, very nutritious, and, for the most part, easy of digestion. A few dyspeptic and bilious people, indeed, find it

to disagree, more especially if not well cooked, or if not of a good sort; but this is a rare occurrence. A convincing proof of its highly nutritive qualities is, that the greater part of the arrow-root sold in England is extracted from it. The dry, mealy sort of potatoe is the most easy of digestion, and by far the most nourishing; and the simplest mode of preparing them for the table is the best: mashed potatoes are more difficult of digestion. The valetudinarian should, in general, avoid the young potatoe, till after the first of August, on account of its indigestible nature when very young.

The history of the potatoe conveys to us a most instructive lesson, forcibly reminding us of the extraordinary lengths to which prejudice will carry mankind, and showing us by what apparently trivial circumstances this prejudice is often removed, when the most powerful and influential arguments have failed to weaken it. The introduction of this valuable root to the gardens and tables of the people, received, for more than two centuries, an

unexampled opposition from vulgar prejudice, which all the philosophy of the age was unable to dissipate, until Louis XV. of France, wore a bunch of the flowers of the potatoe in the midst of his court on a day of festivity; the people then, for the first time, obsequiously acknowledged its usefulness, and its cultivation, as an article of food, soon became universal. Now, its stalk, considered as a textile plant, produces, in Austria, a cottony flax. In Sweden, sugar is extracted from its roots. By combustion its different parts yield a very considerable quantity of potass. Its apples, when ripe, ferment and yield vinegar by exposure, or spirit by distillation. Its tubercles made into a pulp, are a substitute for soap in bleaching. Cooked by steam, the potatoe is one of the most wholesome and nutritious, and, at the same time, the most economical of all vegetable aliments. By different manipulations, it furnishes two kinds of flour, a gruel, and a parenchyma, which in times of scarcity may be made into bread, or applied to increase the bulk of bread

made from grain; and its starch is little, if at all, inferior to the Indian arrow root. Such are the numerous resources which this invaluable plant is calculated to furnish. See *Paris's Pharmacologia*, vol. i. page 54.

Turnips are nutritive, easily digested, and very wholesome. Sir John Sinclair states,* that they in general disagree with those who have weak stomachs, and are subject to flatulency, but this is certainly a mistake. All vegetables are more or less flatulent, but turnips are among those which are least so; and I am persuaded extensive and accurate observation will prove, that they almost always agree remarkably well with weak stomachs, and are, therefore, among the best vegetables which those troubled with indigestion and bilious complaints can resort to. They are slightly laxative, which is an additional recommendation in such cases.

Onions sometimes assist digestion, although they cannot, in my opinion, be

* Code of Health, page 140.

considered very nourishing. They are best suited to persons of a cold and phlegmatic habit, and those whose stomachs require a stimulus. Parsnips, when well boiled, are nutritive and wholesome. Carrots are digested with difficulty, and are not wholesome.

Of the class of *Fruits*, the best are apples, pears, peaches, apricots, strawberries, raspberries,*gooseberries,oranges, red and white currants, and grapes; and in point of digestibility and wholesomeness, they, perhaps, rank as now placed, the apple being, on the whole, the first, both as it respects utility and its wholesome qualities. The baked apple is a most wholesome fruit. Strawberries are a very cooling, laxative, and wholesome fruit, and are supposed to possess qualities unfavourable to the formation of gravel

* Gooseberries, in their green state, should be avoided by the valetudinarian, as being indigestible and unwholesome, excepting in the case of the consumptive, who may frequently take them in the form of gooseberry-fool, with considerable advantage, when troubled with heat and flushings of the face, burning of the hands, and other symptoms of hectic fever, so often attending that malady. In such instances, their cooling acid qualities are beneficial.

and stone. Of course, these fruits are conducive to the health and nourishment of the body only when quite ripe; and of apples and pears, the more mellow and tender the fruit the better. The pine-apple is most delicious, but ought to be eaten sparingly, more especially by elderly persons, on whom it sometimes takes a very extraordinary effect. Cherries, plums, olives, melons, and all kinds of nuts, are mostly difficult of digestion, and fit only for the strong and active. Black currants have a strong tendency to affect the bowels, and are not to be recommended in diet. As a medicine, when made into jam or jelly, they are highly useful in sore throat.

Of dried fruits, the most valuable are grapes or raisins, plums or prunes, and figs. These are very nutritious, but, from the great quantity of saccharine matter they contain, are much disposed to oppress the stomach, and, consequently, to prove indigestible. They cannot, in general, with any propriety, be recommended to the weakly, or the invalid.

As to the consumption of fruits, the following remarks merit attention. 1. Being abundantly produced by nature at that season of the year, when such substances, with the acid, refreshing, and diluting qualities they possess, are particularly acceptable, they are highly beneficial to most persons in summer, and should therefore be taken in proper quantity. 2. To young persons, full of blood, they are particularly useful, on account of their tending to allay excessive heat, and moderate the circulation. Such individuals ought to make them a principal part of their food in the summer. 3. To such also as are liable to slight irregular fevers, or to frequent feverishness, they are truly valuable, and may be considered as both food and medicine. In this case, the best time of taking them is at meals, and whenever the individuals find themselves preternaturally heated. 4. For persons in tolerable health, the best time for eating fruit is after dinner, and at supper. In summer, a moderate quantity of the most wholesome fruit, with a little bread

or biscuit, forms one of the most desirable suppers that can be indulged in, and particularly for the valetudinarian.

There are a few miscellaneous articles used as food, which it is proper to notice, the chief of which are arrow-root, tapioca, sago, and salep.* All these are nourishing, and easily digested, when taken with bread or biscuit, the addition of which renders them not only lighter on the stomach, but more nutritive. Milk also is a valuable addition to them. Indian arrow-root is justly considered to possess the most of a nutritious quality, and I think the rest stand in the order here placed. They all form very suitable nourishment for the sick and convalescent, but when they turn acid on the stomach, which they often will do when that organ is weak, it requires a little management to render them agreeable and

* The celebrated Hufeland confidently recommends salep, in fine powder, dissolved in water, as a most wholesome and nutritive food for young children. He says he has found it of the greatest service in restoring the strength and flesh of exhausted and emaciated children. It may be mixed with water, &c. in the manner and proportion usually followed in preparing arrow-root.

wholesome. In this case, they should be mixed with a good proportion of condiment, as cinnamon, allspice, &c. with or without a little biscuit powder, or grated bread; a little port or sherry wine may also be added, if admissible, and a little well-made toast, or plain biscuit, be eaten at the same time. By these means, the tendency to acidity may generally be counteracted. The tapioca, or sago, mixed with bread and milk, makes a very good pudding.

But there is a point connected with the consumption of arrow-root, and almost all other articles which are supposed to contain much nutriment in a very small space, that ought to be particularly adverted to in this book, and I know not that I can select a better place to notice it in, than the present. The point alluded to, refers to the concentration of aliment, on which very erroneous and injurious notions generally prevail. People in general suppose, that by extracting and insulating what they conceive to be the nutritious principle or principles of any given alimentary sub-

stance, they are able with greater certainty and effect to nourish the body of the sick and delicate; thus, we continually hear of strong beef-tea, pure arrow-root jelly, and the like, prepared with great care for such persons. But many of my readers will be much surprised to hear, that a dog fed on the strongest beef-tea alone rapidly emaciates, and dies within a short period, and that precisely the same consequences would ensue on confining the strongest man to the same food. It is also a fact, that a dog fed on fine white bread (usually considered by far the most nutritive kind of bread), and water, both at discretion, does not live beyond the fiftieth day; and that a rabbit or Guinea pig, fed on the best wheat alone, dies, with all the symptoms of starvation, commonly within a fortnight, and sometimes much sooner: the same effects follow if they are fed on oats or barley, singly.* An ass, fed with rice boiled in water, does not survive above a fortnight. The reason of all this

* Dr. Londe on Aliment, in Archives Generales de Medicine, de Paris.

is, that diversity of aliment, and a certain bulk, are essential to nutrition; and it teaches us, that we ought never to confine any individual, especially if sick, to one or two sorts of concentrated food, and that we should not endeavour to combine too much nutriment in too small a space. When so given, it will, even in health, be followed by fermentation instead of digestion,* as is proved by the fact, that pure arrow-root jelly taken alone, or with the slightest addition of any other substance, almost invariably acidulates on the stomach; and it does not nourish. It follows, that strong soup, beef-tea, arrow-root, animal jellies, and all such articles of diet, should at all times be taken with some other alimentary substance, and particularly with bread.

* Paris's Pharmacologia, Vol. i. page 272.

SECTION II.

OF LIQUID FOOD.

The importance of liquid food to the well being of the human frame, is proved by the single fact, that its fluids far exceed the solids, in point of weight; and as the fluids as well as the solids of the body are incessantly suffering loss, so do they require constant reparation. Liquids are necessary to assist digestion; to the perfection of the assimilating processes, and to carry the nutritive particles to every part of the system; to the formation of the various secretions and excretions; and sometimes to refresh and stimulate the languid powers of the circulation.

The liquors commonly used are chiefly *water, milk, toast and water, gruel, tea, coffee, chocolate, broths, soups, wine, malt liquors, and ardent spirits,* each of which we shall consider a little at length.

Common water is a liquid of greater importance to man than any other, on account

of its being a natural production, largely consumed, and admirably adapted for the dilution of our solid food, and to aid its perfect digestion and assimilation. I believe the most able physicians agree, that it is by far the safest and most salutary beverage in which man can possibly indulge, being the best solvent and diluent of our solid food, that which best supports the tone of the stomach, without exhausting its vigour, and which, in reality, furnishes not only the most simple, but also the most suitable supply to the secreting vessels, and towards maintaining the general humidity or elasticity of the body. Hence it arises, that those who use pure water only, as their general drink, are, all other things being equal, the most free from disease, and retain the vigour of life, and its different functions, to a more advanced age.*

* The celebrated Hoffman says, pure water is the fittest drink for persons of all ages and temperaments; and of all the productions of nature or art, comes the nearest to that universal remedy, so much sought after by mankind, but never hitherto discovered.

It is also an agent of considerable importance in the relief and cure of disease, particularly in inflammatory fevers, and, when uncommonly pure, in diabetes, scrophula, gravel, and cutaneous eruptions.

There are several kinds of water, but rain water, snow water, and spring water, are the purest and best. Rain water, when collected in the open fields, is certainly the purest natural water, but when collected in towns, or from the roofs of houses, it contains many impurities, and requires to be boiled and strained previous to internal use. Snow water is remarkably soft and pure, particularly when made from snow that falls in calm weather. Spring water, in addition to the substances detected in rain water, generally contains a small proportion of common salt, and frequently other salts. The larger springs are purer than smaller ones, and those which occur in silicious rocks, or beds of gravel, contain the least impregnation. If it has not filtered through a very soluble soil, it is often almost as pure as rain water. Well or pump water,

which is spring water obtained by digging to a considerable depth, is by no means so pure. It is commonly distinguished by a property named hardness, implying an incapability of dissolving soap; which is owing to its containing many earthy salts, the principal of which is sulphate of lime. River water, when the stream is rapid, and runs over a pebbly or silicious channel, is as pure as the softer spring water; but when the current is slow, and the bed clayey, it approaches nearer to the nature of well water, and frequently contains putrified vegetable and animal matter, as is generally the case in the water of lakes and marshes.

It is of some consequence to the health of every one, and especially to that of the sick and weakly, that they should avoid hard water, and confine themselves to that which is *soft*. Some medical writers, indeed, have denied that hard water is injurious to the animal system, but there can be no doubt that this opinion is very erroneous; the great superiority, in point of wholesomeness, which soft water has

over that which is hard, being proved by many striking facts. Horses, for example, by an instinctive sagacity, always prefer the former, and when, by necessity or inattention, they are confined to the latter, their coats become rough, and ill-conditioned, and they are frequently attacked with the gripes. Hard water also has a tendency to produce disease in the spleen of certain animals, especially sheep; and pigeons refuse it when they have been accustomed to that which is soft. Some very eminent and discerning physicians have ascribed the scrofulous swellings, and complaints of gravel, so common in certain districts, to the hardness of the water there, and there is often much to countenance the opinion. The late Dr. Baillie has remarked, that he had witnessed more advantage to arise in scrofula from the air and waters of Malvern, than from almost any other means. The best mode of freeing hard water of its earthy salts, is first to boil it; then, after it has cooled, to drop into it an alkaline carbonate, as a little carbonate of soda, &c.;

and lastly, to filter it. Filtering machines are very useful in all large towns. Putting a slice of toasted bread into water softens it very much, and if there were no other advantage arising from drinking toast and water, its greater softness would be a strong recommendation in its favour.

Signs of Good Water. 1. It may be inferred, from the vigour and florid looks of the inhabitants, and from the healthiness of the animals living in the neighbourhood, that the waters they use are good in quality. 2. Also when a few drops of the water are let fall on good copper, and they occasion no spot thereon. 3. Good water is found fit for boiling vegetables quickly, in particular peas, beans, and other pulse. 4. Good waters are light; and perhaps lightness of water is the most positive token of its goodness, and its exemption from other ingredients. 5. Those waters which dissolve soap in the completest manner, are generally excellent. 6. Springs issuing from sandy soils, sandstone, gravel, and red-stone, are usually wholesome. 7. Good water easily ac-

quires the taste, colour, and flavour that is wished to be given to it. 8. Springs which freeze with difficulty, and suffer little variation in their temperature at different seasons of the year, are deemed good. 9. Water of good quality soon grows warm by the heat of the fire, and soon cools when exposed to the air. 10. It is reckoned a good sign in river water, to bear water-cresses and water-marigolds, and where fresh verdure is observed along the banks where it runs.

Milk holds a very conspicuous place among the various articles of liquid food. It is one of the most valuable presents that nature has bestowed upon the human race, being equally wholesome, nourishing, and digestible, and well calculated as an article of diet both for children and adults. It is worthy of particular attention from the consumptive, the gouty, and in many cases of derangement of the general health.

It ought to make a chief part of the food of the consumptive, as it has, undoubtedly, the power of invigorating the

body, without increasing the febrile irritation present. The best sort for such patients is asses' milk, but whatever kind be taken, it should invariably be fresh and warm from the animal, because the excellence of milk seems, in a great measure, to depend on the intimate mixture of the three substances of which it principally consists, which is complete when fresh and warm, but the air speedily acts upon them so as to cause a separation. Butter-milk ought to form the principal article for quenching the thirst, and allaying the occasional heat and feverishness, so common in consumptive invalids. For these purposes, it is highly valuable, being very cooling, refreshing, and, at the same time, nutritious, when properly made. It ought to be quite new, and obtained from milk, the whole of which has been employed in making butter, and not the cream only.

It is equally certain, that a milk diet, or one nearly approaching to it, is of great service in most gouty cases, occurring in sound constitutions, and uncomplicated

with any other disease. It will not answer quite so well, in severe chronic gout, that is, where the disease, from its frequent attacks, has greatly enfeebled the digestive organs, and whole constitution; yet even here, some physicians think, and I believe reasonably, that with proper management it is capable, in conjunction with exercise, of accomplishing the most salutary changes. Dr. Cullen thought a vegetable diet, with exercise, equal to the perfect cure of the majority of gouty cases; and Dr. Stark states, that a Mr. Slingsby lived many years solely on bread, milk, and vegetables, and was free from gout ever since he began that regimen; he had also excellent spirits, and was very vigorous. And a Dr. Knight followed the same plan with equal success.

The lighter sorts of milk, particularly asses' and mares' milk, are excellent in all disorders where the patient is troubled with an insatiable thirst. Butter-milk also will be found very useful in such instances.

Milk does not generally agree with the

perfect hypochondriac, nor the plethoric and corpulent, and disagrees particularly with tipplers, or those addicted to strong liquors.

Of course, the quality of milk varies greatly according to the season of the year, the pasture upon which the animal is fed, and the degree of exercise and free air allowed to it: the more favourable these circumstances are, the better will be the milk. Good cows' milk ought to be white, without smell, and so fat, that a drop being allowed to fall on the nail, will not run down in divisions.

It should be observed, that skimmed milk is much inferior to the article in its original state. If new milk be too heavy for a weak stomach, it is much more wholesome to dilute it with lukewarm water, than to skim it.* It may also, in the case of weakness of stomach, be most

* When woman's milk cannot be got for infants, and cows' milk becomes acescent on the stomach, the following composition may be tried with advantage. Boil two ounces of hartshorn shavings in a quart of water, over a gentle fire, till the whole is reduced to a pint, then mix it with twice its quantity of cows' milk, (warm from the cow if possible), and a little sugar, and a nourishing, easily-digested aliment will be formed.

advantageously diluted with soda water, or lime water.

Toast and water is a nutritious and valuable diluent. The toasted bread renders the water exceedingly soft, and agreeable, and tends very much to correct any other bad quality that may exist in it. It is therefore a valuable resource in many cases. It will soften the hardest water. Soda water, (from the soda powders, which should always be preferred to the bottled soda water,) made with toast and water, is vastly superior to that made with plain water, being both more agreeable, and more beneficial.*

* The following is a good receipt for making toast and water. Take a slice of fine and stale loaf bread, cut very thin, (as thin as toast is ever cut); and let it be carefully toasted on both sides, until it be *completely browned all over*, but nowise blackened, or burned in any way. Put this into a common deep stone or china jug, and pour over it from the tea kettle, as much clean boiling water as you wish to make into drink. Much depends on the water being actually in a boiling state. Cover the jug with a saucer or plate, and let the drink cool until it be quite cold; it is then fit to be used; the fresher made the better, and of course the more agreeable. This is the best way of making toast and water, but if, in the absence of boiling water, it be made with that which is cold, the drink will be much better than common water.

Gruel is well known to be an infusion of oatmeal, and is a wholesome and nutritious article, well calculated for the supper of all persons, and particularly for the delicate, when it does not become acescent on the stomach. It may be taken with or without milk, and with salt or sugar. Nutmeg, or some other spice, should in general be grated into it. When it acidulates on the stomach, it may often be taken without producing any such unpleasant effect, if made partly with good beer, instead of wholly with water. Franklin mentions the case of an old Roman Catholic lady, who had disposed of all her property for charitable uses, reserving only twelve pounds a year to herself, (and of this small pittance she gave a part to the poor,) who lived entirely on water-gruel. She never experienced sickness. This is a sufficient proof how wholesome gruel is, and how little is necessary to maintain life and health.

Tea was first used in Britain about the year 1666, and became a fashionable beverage at court, owing to the example

of Katherine, the queen of Charles II. who had been accustomed to it in Portugal. Its present annual consumption in this kingdom is enormous; yet physicians are still divided in opinion respecting its real qualities, some considering it to be, upon the whole, a wholesome and beneficial diluent, while others look upon it as pernicious, and attribute to its frequent employment chiefly, the visible increase of nervous disorders and other complaints of debility. A considerable majority of professional men, however, rank among the former, and I think there is much reason to consider good *black* tea, when drank in moderate quantity, as wholesome and useful. It forms a refreshing antispasmodic beverage, very suitable for the morning and evening, but should not be taken either strong or hot, and the addition of milk and a little sugar renders it more wholesome. Individuals of a rigid and solid fibre require more of it, and are more benefited by it, than those of an opposite habit; but none should take more than three small tea-cupfuls morning

and evening. It is a beverage much better suited to the evening than the morning, and less of it should therefore be taken at the latter than the former period. Generally speaking, I am fully persuaded it is superior for common use to chocolate, or coffee, though it is more than probable, that some of our indigenous plants would yield as wholesome and palatable an infusion as the tea-leaf of China. With some persons, however, no China tea agrees, and then an infusion of agrimony, or some other native plant, should be substituted for it. I may state, on very respectable authority, that the first leaves of whortleberry, properly gathered, and dried in the shade, cannot be distinguished from real teas.* It is certain that all *green* tea is exceedingly pernicious, having a strong tendency to injure the stomach and bowels, and the whole nervous sys-

* Sage, (the *tomentosa*, or *balsamic sage*), and balm, (*melissa hortensis*, or *garden balm*), are likewise valuable substitutes fo tea, more particularly in the case of debility in the stomach and nervous system. John Hussey, of Sydenham, in Kent, who lived to one hundred and sixteen, took nothing for his breakfast fo fifty years, but balm tea, sweetened with honey.

tem.* Medicinally, tea is sometimes of service in relieving the sensations of oppression and weight at the pit of the stomach, so frequently accompanying indigestion and bilious complaints; but it is worthy of particular notice from the dyspeptic, that few things will injure him more than an immoderate indulgence in this or any other warm slop.

The following rules, respecting the use of tea, will be found useful. 1. Carefully avoid the high-priced and high-flavoured teas, more especially if *green*, which generally owe their flavour to pernicious ingredients, and abound most with those active principles, whence the noxious effects of the articles arise. 2. Take with it at all times a good proportion of milk, and some sugar, as correctives to any

* If two or three cupfuls of green tea of a moderate strength, such, for instance, as would be used for company, are given to any individual, who has never, or very rarely, tasted green tea it will invariably make him exceedingly nervous and uncomfortable for a considerable time, and with many such persons it will have rather an alarming effect. This is a convincing proof of its deleterious nature, and shows what an injurious influence, it must have on the constitutions of those who drink it frequently.

possible noxious qualities present. 3. Let the quantity of tea used at each infusion be very moderate. 4. Make the infusion properly, with water soft and otherwise of a good quality, and in a boiling state. 5. Take less tea in the morning than in the evening. The first meal we take in the morning, to recruit the body, after the loss it has sustained during a long fast through the night, and to prepare it for the labours of the succeeding hours of the day, should be in some measure substantial, consisting of a large proportion of solid aliment. Indeed, except when drank soon after a hearty dinner, solid nourishment should always be taken with tea.

Coffee is sufficiently wholesome for occasional use, but does not sit so easy on the stomach as tea. It is also more heating, and when taken immoderately, and very strong, impedes nutrition, weakens the nervous system, and produces all the bad effects of strong tea. The weakly and delicate, generally find it difficult of digestion, and apt to become acescent, more particularly if troubled with much

weakness of the stomach; and it is, therefore, by no means an eligible beverage for the dyspeptic or bilious. On account of its more heating and indigestible nature, it is clearly not so well adapted to answer the purposes of a diluent after dinner, as tea, and the practice of serving up coffee, soon after the latter meal, should, therefore, be exchanged for tea. The dinner itself, especially if freely partaken of, creates sufficient heat and tendency to indigestion, generally too much of both, without our having recourse to a liquid which is calculated to augment these bad effects. Indeed, this liquor is, at all times, better suited for the morning than the evening, and for the winter than the summer.* Mocha coffee is the best; it should be made only of a moderate strength.

* Since writing the above, I find that Dr. Paris, (*Treatise on Diet*, page 173,) entertains a contrary sentiment, and states, that "if coffee be taken immediately after a meal, it is not found to create that disturbance in its digestion which has been noticed as the occasional consequence of tea; on the contrary, it accelerates the operations of the stomach." I believe the reverse of this to be the real truth; and the reasons for my opinion are given above. It is possible we may now and then meet with an individual who finds coffee agree with him better than tea, but

Well burnt rye affords a very good substitute for coffee. It appears to be quite as wholesome, and is almost as palatable.

Chocolate is far more nourishing, less heating, and perhaps more wholesome than coffee, when properly made. It is commonly made much too thick, and with too much milk, which renders it oppressive and cloying to the stomach. It is very much better when made with water, and rather thin, the milk being added to it when poured out, in the same way that we add it to tea. In this form it is a light, nutritive, and wholesome beverage, well adapted to the nervous, the delicate, and those of a costive habit of body. It is improper for the corpulent,

in a great majority of cases, the former liquid will be found to create much more disturbance when taken after dinner, or any other solid meal, than the latter, and will also more certainly impede the operations of the stomach. I have known this to occur repeatedly, and appeal to the experience of the invalid to verify my assertion. It is often very difficult for a strong and healthy person, to afford correct information as to the relative digestibility and wholesomeness of different alimentary matters, but those who have weak stomachs will soon decide the point; and I am assured, that nineteen dyspeptics out of twenty will declare in favour of tea.

and those disposed to inflammatory diseases, and apoplexy; and must be sparingly used by such as are employed in mental pursuits.

Cocoa is in fact only a weak chocolate. It is a light, nutritious, and wholesome drink. It sits much easier on the stomach than chocolate, and the sedentary and studious may, therefore, often take it with advantage, instead of tea.

Broths and *Soups*, properly made, with a due proportion of vegetable and animal food, without fat, are undoubtedly wholesome and nutritive, and may be said to serve both for meat and drink; but they must invariably be taken with bread. Many suppose that they are calculated only for those whose powers of digestion are weak, but this is a mistake, the reverse being generally the truth; because we find, almost universally, that where the digestive powers are weak and deranged, solid aliment agrees the best, particularly solid animal food, since it gives the stomach less to do, and rest to a weak organ is of great consequence; whereas liquid

food is apt, in these cases, to dilute the gastric juice too much, besides which, it certainly requires a greater strength of digestive power for its perfect assimilation. Hence we see, that the present liquids are better fitted, as articles of diet, for such as have a good measure of strength, than for the weakly and delicate. The Scotch barley broth I consider a very wholesome diet.*

Beef-tea is nutritious when taken with a sufficient quantity of bread, but not else. See page 42.

WINE. This is an interesting and important subject, on account of the very general use of this liquid in Europe, and of the exhilarating and admirable effects it is capable of producing when used in due quantity, and of proper quality, as well as of the very pernicious consequences arising from its abuse.

* The following is an excellent mode of making this broth.—Take a tea-cupful of pot, or pearl barley, and one gallon of water. Boil gently for half an hour, then add three pounds of lean beef, or neck of mutton, some carrots and turnips cut small, a pint of green peas, if in season, and some onions. Let the whole boil gently for two hours longer in a close soup-kettle, when the broth will be fit for use.

Wine is certainly a most valuable cordial. The temperate use of it is conducive to health; the powers both of the body and mind are, to a certain degree, roused by it; the circulation is accelerated and invigorated; the nervous system strengthened, and the action and powers of the stomach increased. But these good effects are all bounded by a very limited use of it, and chiefly by those kinds of wine, in which water enters far more largely into their composition than the spirituous part. Such excellent effects from the use of wine, are, likewise, for the most part, altogether confined to the middle-aged, and those advancing in life. Hence wine has been emphatically called *the milk of old age*, while there are very few physicians of discernment, who have paid much attention to the subject, but consider it pernicious to youth, and truly destructive to children.* I mean, of course, when

* As wine has been called the milk of old age, so is milk properly styled the wine of youth. "No man in health, (says Dr. Trotter,) can need wine till he arrives at forty; he may then begin with two glasses in the day: at fifty he may add two more."

used as an article of diet by such persons; if employed medicinally, it is occasionally of great service to them, as well as to the aged. I will venture to assert, that wine can hardly ever be given to a child in tolerable health, under fifteen years of age, without immediately deranging the functions of the stomach, and suppressing the secretion of healthy bile; and very often it will have the same effects in young persons much above the age now mentioned.* Parents who are anxious for the health of their children should never give them wine, unless under the sanction of an able medical practitioner. If they are weakly and languid, their tonics should in general be, plenty of pure air, and active exercise, with early rising, and a

* Dr. Beddoes states, that an ingenious surgeon tried the following experiment. He gave to two of his children, for a week alternately, after dinner, to the one a full glass of sherry, and to the other a large china orange; the effects that followed were a striking proof of the pernicious effects of vinous liquors on the constitutions of children in full health. In the one, the pulse was quickened, the heat increased, the urine became high coloured, *and the stools destitute of the usual quantity of bile*, whilst the other had every appearance that indicated high health; the same effects followed, when the experiment was reversed.

generous animal food diet, but moderate in quantity, combined with a due attention to regulate the bowels.

In the consumption of wine, it is worthy of particular remark, that it does not furnish an increase of the powers of life, or ability to produce labour permanently; it only stimulates and excites the action of the powers of the body, without supplying the expenditure of the principle producing those powers.* Hence the reason appears evident, why even a slight excess in the use of wine is succeeded by temporary languor and debility, and if the immoderate indulgence be long continued, by permanent weakness, feverishness, and disease in some parts of the body. For if, so to speak, the vital movements are unduly accelerated, there is necessarily a consumption of life, proportionate to the strength and duration of the stimulus producing this acceleration. And

* This is more especially true of the very strong wines, which contain a large proportion of spirit. The best wines for supplying a nutritive principle, are the finest and most perfect sort of sweet wines.

this explains one of the principal reasons why wine is so commonly pernicious to the young, while in the aged it may, on the contrary, be used with advantage; because the vital movements in the former, are, in general, already sufficiently active, and are often prone, even under the operation of slight causes, to run into excess, and terminate in fever, while those advancing in age, on the other hand, frequently need such a gentle stimulus, to diffuse a proper heat over the body, and to invigorate the digestive organs, that the various animal functions may be performed with greater facility and effect.

When wine disagrees, its first effects are generally displayed on the stomach, the breath acquires its smell, the individual is much troubled with acidity and heartburn, and sometimes with nausea; the temper, also, is apt to be more peevish and irascible than usual, and many of the worst symptoms of indigestion soon follow.

Wine may be divided into four classes; viz. the *sweet*, the *sparkling* or *effervescing*, the *light and dry*, and the *dry and strong*.

The principal sweet wines are Malaga, Frontignac, Tokay, Vino Tinto, Schiras, Constantia, Canary, and the Malmsey wines of the Greek Islands. These, when properly fermented, and not adulterated by the addition of sugar or honey, are very nourishing, if taken in small quantities. They are well suited to recruit the strength of invalids, when they do not become acescent on the stomach, or otherwise sensibly disagree. Canary was the favourite wine of the illustrious physician Sydenham, who was in the habit of taking a little more than a quarter of a pint of it every day, after dinner, to promote digestion, and, as he said, drive the gout from his bowels. In the present day, we consider Sherry undoubtedly the best sort of wine for most gouty men.

Champagne and Gooseberry are the chief sparkling wines. They owe their briskness to carbonic acid gas, and intoxicate more speedily than other wines, but the effects of their intoxication are comparatively transitory and innocent.

The dry and light wines are a valuable

sort, more particularly in hot weather. They are the least heating, the most diuretic, and are gently laxative. They have, however, an objection attached to them, which is, that all thin or weak wines, though of an agreeable flavour, yet from their containing little spirit, are readily disposed to become acid on many stomachs, and thereby to occasion or increase gravelly complaints, excepting, indeed, cases of *white* gravel, in which they are in general more useful than any other sort of wine. Nevertheless, even with some delicate persons, the best Rhenish wines agree uncommonly well, and are less liable to ferment than many of the stronger wines. The most esteemed wines of the present class are Hock, Rhenish, Moselle, Claret, Mayne, Barsac, and Hermitage. To those who have a disposition to corpulence, the first four, on account of their diuretic and less heating properties, are preferable to every other kind of wine, for daily use. The gentle astringency of genuine claret, in conjunction with its being well fermented, and

containing a small proportion of spirit, renders it, in the opinion of many physicians, on the whole, the most wholesome of all vinous liquors. It is, without doubt, a very wholesome wine.*

The chief of the dry and strong wines are Sherry, Madeira, Marsala, and Port. In point of salubrity they rank nearly as here placed, but much depends on circumstances. Of these wines, old Sherry is that which generally sits best on the stomach, and altogether agrees best with most persons, especially when the digestive organs are not in high order, or the individual is suffering from continued indigestion. Port, of a moderate age, and unadulterated, is a generous stomachic wine, well suited to the generality of British constitutions, in tolerable health. It is best adapted for cold and moist weather, and to those of relaxed bowels. Its tendency to occasion costiveness, renders it objectionable to such

* The best Claret is made from grapes grown at Chateau Margeaux.

persons as are habitually liable to that state of body, and makes a frequent change to white wine advisable, even to those who are not, provided they are not subject to an opposite extreme.

When wine is prescribed as a cordial in a state of recovery from any acute disease, or in a weakened state of the habit, it should not be taken with dinner or any other meal, but at noon, on an empty stomach. In such a case, it is an excellent practice to get a crust of good bread, dip it, piece by piece, into a glass of old rich wine, as Canary, Tent, Madeira, Sherry, or Port, and take it every day about twelve; this is a valuable cordial. Sometimes in convalescence from a severe disease, the nerves are so irritable as to produce a feverishness in the system, on the application of stimulants, when the quantity of wine used must be small, and (genuine) Claret, Moselle, or Hock, will be found the best sorts.

New wines are well known to be unwholesome to most persons; nevertheless, it is possible to keep wine too long, and

this is frequently done in our country. Nature and experience join in teaching us, that wine, like every thing else, attains to a certain summit of perfection, beyond which its state is decline; and it may be depended on, that when the colour begins to fade, the true body and best qualities are fading also. Wine merchants of the most accurate observation, and extensive experience, I believe, generally agree, that sound good port, is rather impoverished than improved, by being kept in bottle longer than two years, that is, supposing it to have been previously from two to four years in the cask, in this country. The writer of the article *wine*, in the Edinburgh Encyclopœdia Britannica, (*vol.* xviii. *p.* 72.) says, "Wines bottled in good order, may be fit to drink in six months, (especially if bottled in October,) but they are not in perfection before twelve. From that to two years they may continue so; but it would be improper to keep them longer.*

"* A *thick crust* is not always the consequence of the wine having been very long in the bottle; but is often a sign that it

The quantity of wine calculated to preserve health and prolong life, must ever depend a great deal on circumstances, and more particularly as it respects the age, state of health, and degree of exercise taken. As a tonic and stomachic, three or four moderate sized glasses after dinner, is sufficient for the generality of persons in tolerable health;* those who are weakly, and under forty, will, perhaps, find half that quantity better. As a zest to social intercourse, from half a bottle to a bottle of generous wine may be occasionally permitted, to persons *in perfect health*, but it is not advisable, to go frequently to that *utmost limit* of rational indulgence. Dr. Cadogan, in gouty cases, when his patient has recovered health and strength, and can

was too little time in the cask, or has been kept in a very cold cellar." Dr. Kitchiner. "Respecting Port Wine, (says Young in his *Epicure*, page 23,) there is a great fuss made by some about its *age*, and the *crust* on the bottle; as if the age and crust constituted the quality of the wine. Such *crusty* gentlemen shall not select wine for me.

* "Half a pint of wine, that is, four ordinary wine glasses, is as much as most people, (who have not spoiled their stomachs by intemperance,) require." *Dr. Kitchiner.*

take exercise, admits of a pint of wine only once or twice a week, for the sake of good humour and good company merely, and not as good for health. This is certainly "the *utmost* limits of rational indulgence," in the case of the gouty man, who is sincerely desirous of keeping off his foe.

It has been pretty accurately calculated by eminent chemists, that the generality of the foreign wines used in this country, contain from 10 or 12 to 25 parts of combined spirit, in every 100; and this affords us a very good criterion in respect to the quantity of wine individuals in general ought to drink daily. For if port wine, for example, contains, on an average, 23 parts of spirit, by measure, in every 100 parts, it follows, that a person who drinks a bottle of port daily, will consume considerably more than a quarter of a wine pint of spirit every day, and in the course of a week, he must swallow at least a quart of spirit. The following table shews the quantity of spirit contained in the principal wines

(genuine) drank in this country, with their chief varieties, and qualities; and will teach the uninformed, what ought to be the strength, body, flavour, and colour of genuine wine, of each class.

Table of the principal known Wines, and of the quantity of Spirit in each.

Where Produced	Generic Names.	Chief Varieties.	Quantity of Spirit, by Measure, in 100 parts.	Qualities.
Portugal	*Red.* Port	..... (average)	22.96	Deep purple; rough; bitter sweet; spirituous.
		Vinho de Ramo	15.62	
		Collares.....	10.75	
	White. Bucellas	.....	18.49	
	Setuval	.....	—	Pale straw; flavour delicate.
	Calcavellos	.....	18.65	Amber colour; sweet
Spain	*White.* Sherry	.....	19.17	Deep amber colour; nutty & aromatic.
		Amontillado		
		Paxareti	—	Amber colour; sweet & aromatic
	Malaga	.....	18.94	
		Pedro-Ximenes	—	Amber colour; flavour delicate, rich, sweet.
		Lagrima de Malaga	—	Colour deeper; sweet, luscious.
	Malmsey of Sitges Priory.	.....	—	Resembles Malaga.
	Red. Tent, Tintilla	.....	13.30	Purple; sweet; flavour strong, spicy.
	La Torre, Peralez, Segorve, Vinarez	.....	—	Sweet.
France.	*White.* Alba Flor	.....	17.26	Resembles Sauterne.
	White. Champagne	Sillery	13.30	Still, of an amber colour.
		Ay, Hautvilliers, Epernay, Dizy, Avenay, Avise, Oger, Pieray, Closet, Cramont	—	Brisk or sparkling, delicate flavour and aroma; slightly acidulous; but some are still, or, at most, simply creaming; generally paler than Sillery.

Where Produced	Generic Names.	Chief Varieties.	Quantity of Spirit. by Measure, in 100 parts.	Qualities.
France.	*Red.* Champagne	Verzy.....	11.93	
		Verzynay, Mailly, Bouzy, St. Basle, Chamery, Ecueil, Villedemange....	—	Good colour and body, and a high agreeable flavour.
		Clos St. Thierry..	—	Colour and aroma of Burgundy, with lightness of Champagne.
	White. Arbois Papillon Chablis	.....	—	Inferior to Champagne, but resembling it in some of their qualities.
	Red. Burgundy	.....	14.57	
		Romanée Conti, Clos-Vougeot, Chambertin, Richebourg, Romanée de St. Vivant.....	—	Beautiful rich purple colour; exquisite flavour, with a full body, yet delicate and light.
		Volnay, Pomard, Corton, Vosne, Nuits, Beaune, Chamboll, Morey.	—	Excellent wines, but inferior to the former.
		Romaneche, Torins, Chenas, Tonnere	—	Strong, generous wines.
	White. Burgundy	Mont Rachet	—	High perfume, and nutty flavour.
		La Perriere, La Combotte, La Goutte d'or, la Genevriere, les Charmées, Vaurorillon, les Grisées, Valmur	—	Rich, high flavoured wines.
	Red. Hermitage	.....		
		Meal, Greffieux, Besas, Beaume, Raucoule	2.32	Dark purple colour; flavour exquisite; and perfume resembling that of raspberry.

Where Produced	Generic Names.	Chief Varieties.	Quantity of Spirit, by Measure, in 100 parts	Qualities.
France.	*Red.* Hermitage	Crozes, Gervant, Mereceurool	—	Less delicate in flavour.
	White. Hermitage	Vin de Paille....	17.43	Amber colour, sweet, luscious.
	Cote Rotie	..... Verinay	12.32	Resembling Hermitage in flavour, but are weaker.
	Red. Tavel, Chuzlan, Beaneaire	.....	—	Bright rose colour; flavour and aroma delicate.
	St. Geniez, Lirac	.....	—	Inferior.
	Cornas	.....	—	Full rich colour; flavour of Ratafia
	White. Frontignac	.....	12.79	Luscious, flavour of the grape.
	Lunel	Clos Mazet.....	15.52	Bright yellow colour; less luscious than Frontignac.
	Béziers	Cazoul, Bassan ..	—	Resembles Sherry.
	Red. Roussillon	..... (average) Bagnols sur Mer, Casperon, Collioure Toremia, Grenache	18.13	Great body and colour, become tawny when old.
	White. Roussillon	Rivessaltes	—	Bright golden colour: fragrant aroma; flavour of the quince.
		Salces *(Maccabac)*	—	Similar, but inferior to Rivessaltes.
		.....	21.24	Red; somewhat rough; sweet.
	Red. Claret.	..... (average)	15.10	
		Chateau Margeaux, Lafitte, Latour, Leoville	—	Deep purple; delicate flavour; violet perfume.
		(Graves) Haut Brion, Haut Pelance, Merigu.c, ... (average)	13.37	Resemble the better sorts of Burgundy, but are rougher.
		Gorce, Larose, Branme.ton, Pichow, Longueville	—	Light wines; of good flavour.

Where Produced	Generic Names.	Chief Varieties.	Quantity of Spirit, by Measure, in 100 parts.	Qualities.
France	*White.* Claret	Preignac, Beaumes, Langon, Cerons, Buzet	—	Secondary quality.
	Barsac	.....	13.86	Amber colour; full; aroma somewhat like cloves.
	Sauterne	.....	14.22	Amber colour; sweetish.
Germany	*White.* Rhenish	Johannisberger, (1788)	8.71	High flavour and perfume.
		Steinberg	—	Strongest of the Rhine wines; sweetish.
	White. Rhenish	Rüdesheimer, Grafenberg	10.72	Like the Steinberg.
		Markebrune, Rothenberg....	—	Soft and delicate flavour.
	Red. Rhenish	(Hock) Hockheimer (average)..	13.68	Light, acidulous.
		Amanshausen, Liebfrauenmilch, Scharlochberger	—	Considerable body.
		Laubenheim, Nierstein.....	—	Light; delicate perfume & taste.
		Bodenheimer, (1802).....	13.96	Same as last.
	Moselle	Braunenberg, Pisport, Zeltingen, Wehlen, Graach.....	—	Light; pleasant flavour, high aroma.
Hungary	Tokay	.....	9.88	Brownish yellow when new, greenish when old.
		Tokay Essence ..	—	Syrupy, thick, muddy.
		Ausbruch	—	Thinner and more vinous.
		Maslas	—	Inferior to the two former.
Italy	Montepulciano	.....	—	Sweet, with high flavour.
		Aleatico.....	16.20	Brilliant purple; luscious, aromatic flavour.

Where Produced	Generic Names.	Chief Varieties.	Quantity of Spirit, by Measure, in 100 parts.	Qualities.
Italy.	Trebbiano	.....	—	Golden colour; sweet.
	Albano	Montefiascone ..	—	Pale straw-colour; light.
	Lacryma Christi *	.....	19.70	Red, luscious, sweet.
		Monte Somma, Gallite.....	—	The best Lacryma.
		Ischia, Nola, Ottajano, Novella, Torre de Greco, Pozzula	—	Second-rate wines.
Sicily.	Marsala	..... (average)	25.9	
	(Or Bronti Madeira)	21 years old	18.40	Resembles Madeira.
	Syracuse	.....	15.28	Both red and white.
	Lissa	.....	15.90	Resembles Claret.
Candia	Rithymo	.....	—	A fine flavoured white wine.
Tenados	Red Muscadine	.....	—	Resembles Tokay.
Madeira	Madeira	..... (average)	22.27	Full, pungent, nutty, or bitter-sweet, rich, aromatic flavour.
		.. (West Indies)	21.20	
		Sercial (average)	20.32	
		Malmsey	16.40	Luscious, sweet.
Teneriffe	Teneriffe	.....	19.79	Resembles Madeira.
Cape of Good Hope	Constantia	.....	14.50	Sweet, luscious, pungent.
		Red Constantia ..	18.92	
		White Constantia	19.75	
	Steen Wine	....	10.60	Resembles Rhenish
	Cape Muschat	.....	18.25	Sweet.
	—— Madeira	..... (average of best sort)	20.51	Amber colour (not deep); pleasant, aromatic flavour.
		Inferior sorts....	—	Have an earthy, harsh taste, and a deep colour.
England	Grape wine	.....	18.11	Resembles Rhenish
	Raisin wine	.....	25.12	
	Gooseberry wine	.....	11.84	Brisk, like Champagne.

* This is a most improper name for a species of wine. It is a profanation that ought not to be tolerated in any christian country.

Wine ought not to be drank at dinner. In general, the best and most wholesome drink during dinner, is well-hopped home-brewed small beer, which should be quite fresh. This we take as a diluent, the wine comes afterwards as a stomachic.

It was formerly observed by Hippocrates, that wine, diluted with water, is more friendly to the head, breast, and urinary passages; but wine alone, or mixed with very little water, agrees best with the stomach and bowels. There is much truth in this observation, and the valetudinarian will do well to keep it in mind.

The adulteration of wine is unhappily too common a practice, and on this point I would offer the following remarks. Every white or straw-coloured wine of a sweetish taste, afterwards astringent, and at the same time new; every wine that has an unusually high colour, not in proportion to its strength or age, or the flavour of brandy, penetrating the tongue, or, lastly, an uncommon strong flavour, may be justly suspected of adulteration.

Red wines, either of a very deep or a very faint colour; of a woody or tart taste; and those which cover the inside of the glass, as well as the bottom of the bottles, with a red sediment, are generally tinged with some colouring substances.

In order to discover whether suspected wine contains any metallic adulteration, we are possessed of an excellent chemical test, discovered by Professor Hahnemann, of Germany, and known by the name of *Liquor Vini Probatorius*. It is prepared thus:—One drachm of the dry liver of sulphur, and two drachms of cream of tartar, are shaken together in two ounces of distilled water, till it be completely saturated with hepatic gas. The liquor is then filtered through blotting paper, and kept in a close-stopped phial. From fifteen to twenty drops of this liquid are dropped into a small glass, filled with wine that is suspected to have been adulterated. If the wine turn only thick with white clouds, and deposit only a white sediment, we may be certain that it contains no metallic ingredient whatever,

but if it turn black, or even muddy, if its colour approach to that of a dark red, if it have first a sweet and then an astringent taste, it is certainly impregnated with sugar of lead, or some other impregnation of that metal, equally destructive. If, however, the dark colour be of a blue cast, not unlike that of pale ink, we may suspect the wine to contain iron in its composition. Lastly, if the wine be impregnated with copper or verdigris, it will deposit a sediment of a blackish grey colour. This experiment ought to be made with a fresh prepared test, and in the open air.

The *art of preserving wines,* is to prevent them from fretting; which is done by careful corking,* and keeping them in the same degree of heat, and in a cellar where they will not be agitated by the motion of carriages passing. " If persons wish

* " Cork the bottles very closely with good cork, and lay them on their sides, that the cork may not dry, and facilitate the access of the air. For the greater safety, the cork may be covered with a coating of cement applied by means of a brush, or the neck of the bottle may be immersed in a mixture of melted wax." *Accum on Making Wine.*

to preserve the fine flavour of their wines, they ought *on no account* to permit any bacon, cheese, onions, or cider in their wine-cellars. Or, if there be any disagreeable stench in the cellar, the wine will indubitably imbibe it; consequently, instead of being fragrant and charming to the nose and palate, it will be extremely disagreeable."*

The preceding observations refer solely to the use of foreign wine. Home-made wines are less wholesome, on several accounts; but if they are well prepared and fermented, and with a due proportion of raisins instead of sugar, they are, in general, sufficiently wholesome for persons in health, if kept to a proper age.

Cider and *Perry* are considered wholesome liquors, when they are properly fermented, and drank in small quantities. They are well calculated for persons troubled with *white* gravel.†

* Carnel on Wine Making, page 124.

† See "*Modern Domestic Medicine:*" a Popular Treatise on the Nature, Causes, and Treatment of all Diseases; for the use of Families and Invalids, (page 361). By T. J. Graham, M.D. &c.

Malt Liquors. I am much disposed to extol the virtues of malt liquor. When properly fermented, well hopped and of a moderate strength, they are refreshing, wholesome and nourishing. It is a common observation, that those who drink sound malt liquors, are stronger than those who drink wine; and to those who are trained to boxing, and other athletic exercises, old home-brewed beer is particularly recommended, drawn from the cask, and not bottled. Hence Jackson, the celebrated trainer, affirms, if any person accustomed to drink wine, would but try malt liquor for a month, he would find himself so much the better for it, that he would soon take to the one, and abandon the other. Some suppose the superior *bottom* of the British Soldiery to be owing, in a great measure, to their use of malt liquor.

"Your wine-tippling, dram-sipping fellows retreat,
But your beer-drinking Britons can never be beat."
Dr. Arne.

Good home-brewed beer has been styled by some *vinum Britannicum*, and by others

liquid bread. There can be no doubt of its highly nutritive and wholesome qualities, and it is much to be regretted, that so few families in this kingdom now ever brew their own beer, but are content to put up with the half-fermented, adulterated *wash* found in public houses, or with the no less adulterated and impure drink called porter.

Malt liquors are divided into small beer, strong beer, ale, and porter. Small beer is best calculated for common use, being less heating and stimulating than other malt liquors. When used soft and mild, after having been thoroughly fermented and purified, it forms an excellent diluent with food, more especially at dinner. Sydenham was in the habit of using it in this manner both at dinner and supper, and he justly considered its being well hopped a great advantage. In general, it is, without doubt, the best fermented drink which can be taken at dinner, by persons in the middle and higher ranks of society, who are in the habit of drinking wine after that meal. As it abounds with

carbonic acid gas, or fixed air, it is the most useful diluent for labourers, because it cools the body, abates thirst, and, at the same time, stimulates very moderately the animal powers. Small beer, when stale and hard, is unwholesome to all persons.

Sound strong beer is very nutritious and wholesome; indeed, it is generally considered more nourishing than wine. It is a most useful drink to the weak, the lean, and the laborious, provided they are not very subject to flatulency, nor troubled with disorders of the breast.* It taken in moderate quantity, and of the best quality, it will often be found of great service to the invalid, in assisting to restore his strength, spirits, and flesh. It should be drank from the cask; bottled beer being more likely to disagree with the stomach, and to produce flatulency.

There is a general prejudice against beer in the case of the bilious and sedentary, but

* Even this will depend a little on circumstances, for there is a particular kind of beer brewed at Ashburton, in Derbyshire, very full of fixed air, called *Ashburton pop*, which is said to be very useful in many cases of consumption.

it appears to me without sufficient foundation. Bilious people are such as have weak stomachs, and impaired digestion, and those who are sedentary, are nearly, in these respects, always in a similar state. Now, I have not observed that beer tends to weaken such stomachs, or to become acescent, or otherwise to disagree with them; on the contrary, I believe, it will be found, in the majority of cases, that this beverage agrees much better than wine, since it is far less disposed to acescency, and better fitted to act as a stomachic, and, therefore, to invigorate both the digestive organs, and the constitution at large.* That it is very far superior for such persons to diluted spirit, in any form, I am fully persuaded. Of course, I here speak of sound home-brewed beer, of a moderate strength. No man can answer for the effects of the stuff usually sold as beer; and we know strong ale is always difficult of digestion.

* The infusion of hop, contained in all good beer, is a very useful bitter tonic, that tends to strengthen the stomach, and invigorate the whole frame.

Strong ale is, undoubtedly, the most nutritive of all malt liquors, but being digested with greater difficulty than the other sorts, it cannot with propriety be taken but by those who are strong, and who use much active exercise. The best ale is made from fine pale malt, and with hops of the finest quality. It should sparkle in the glass, but the smaller the bubbles the better. I ought to add, that in some cases of general weakness, where the individual is certainly recovering, and is possessed of a good measure of strength of stomach, a little of the finest ale daily will be found highly restorative.

Porter, when good, is not an unwholesome drink; but it is very difficult to procure it of the best quality. I cannot recommend it to those who are desirous of preserving their health.

Good *spruce* beer is diuretic and antiscorbutic, and sits easy on a weak stomach. It is well suited to the summer, being, from the quantity of fixed air it contains, highly refreshing and cooling.

Ardent spirits, of every description, are in their nature and ordinary effects, extremely *unfriendly* to the human constitution, and the art of distillation is, beyond all doubt, the most fatal discovery, in respect of the health of the community, which the ingenuity of man ever devised.

The celebrated John Hunter, on dissecting a man who had been much addicted to the use of spirits, found the blood converted into a kind of oily matter. And it has been proved by experiment, that their pernicious effects upon horses, are as great as those produced by giving them various well known poisons.

I am fully of opinion, that spirits should never be taken by those who are desirous of preserving good health, and prolonging their lives, except occasionally as a medicine. They may now and then be employed medicinally as a cordial, when the body has been exposed for a long time to wet weather, more especially if it be combined with cold; when the body has been suddenly exhausted of its strength, and a disposition to fainting has been in-

duced; and in a few extreme cases of putrid fever. When used in any other manner, they stimulate the stomach and neighbouring viscera to an excessive and unnatural action, impair the appetite, impede digestion, and lay the foundation of organic mischief in the most important of the digestive organs, and these effects are as certainly produced by the frequent use of spirits diluted with water, as when taken pure. Weak brandy and water is a very exceptionable beverage for common use, notwithstanding its being frequently recommended by some medical men.* Some will say, if wine turns acid, and beer does not agree, what are we to drink? I answer, it is questionable whether good sound beer of a moderate

* Dr. Falconer very justly objected to this practice, in the strongest manner. Some who advocate it say, "What is wine but diluted spirit?" This is mere trifling. Wine, it is true, contains a great deal of spirit, but during the process of perfect fermentation, it is intimately mixed with the aqueous part, and also much modified by commixture with the saccharine, mucilaginous, and extractive matter of the grape, &c. Spirit and water combine very imperfectly, and there is reason to believe, that when taken into the stomach, the spirit quickly evaporates and acts on the coats of the stomach, as pure spirit.

strength, does disagree with you; that the common beer should prove disagreeable, can excite no surprise, but let those who are at a loss to know what to drink at dinner and supper, on account of wine proving acescent, get some sound home-brewed beer, and I will venture to assert, that in nine cases out of ten, it will be found both nutritive and easy of digestion. Even in cases of indigestion, it will often be found very wholesome, under a proper diet and regimen in other respects, and suitable medicine, if any be required,* (See page 89). But if malt liquor will not agree, take toast and water, barley-water, or a little soda water. Soda water

* I would not be misunderstood here. There are, undoubtedly, many cases of indigestion and bilious complaints, as they are called, in which malt liquors will not answer, and it cannot be otherwise, because there are numerous instances of such maladies in which no stimulant whatever can be borne; but there are also very many in which slight stomachics and stimulants are of inestimable service, and here I maintain, malt liquors will often agree uncommonly well, and, from their tonic qualities, will assist us in conquering the disorder. My principal reason for recommending beer in this volume, is because its value is too little known and appreciated. Every invalid must, in some measure, *feel his own way*, and if he finds this or any other liquor to disagree, it should be given up.

made by the individual himself, with the soda powders, and toast and water instead of plain water, is a very wholesome and beneficial diluent for the valetudinarian.

In Dr. Paris's observations on Diet, a strong objection is made against the use of soda water. He says, "The drinking of this during, or immediately after, dinner, is a pregnant source of dyspepsia. By inflating the stomach at such a period, we inevitably counteract those muscular contractions of its coats, which are essential to chymification." But these remarks are applicable only to the *manufactured soda water*, which is drank from the bottle or fountain, or to an excessive use of the better sort of this beverage. I have long been convinced of the inferiority of the bottled water to that made with the powders, as wanted, and have taken some pains to recommend the latter to the public as far preferable. There can be no doubt that the manufactured water is often little, if any thing, more than carbonic acid gas suspended in water, (often effected in a very objectionable manner,)

which combination, to the majority of dyspeptics, is not only useless but detrimental. This is not the case, however, with the water made as above directed, which I am persuaded is very generally both grateful and useful, when used in moderate quantity. As it respects an excessive use of this drink, either at dinner, or any other time, it is evident that, like all other excesses, it cannot fail to be injurious, but the abuse of any practice will not be admitted as an objection to its use.

I need hardly add, that all *liqueurs* are pernicious.

OF THE PROPER QUANTITY OF LIQUID FOOD.

The proper quantity of liquid food may be stated to be from three to four pints, a day; but this may with propriety be exceeded in some instances, for example, in hot weather, we require more than we do in cold weather, and persons who lead a laborious life need more than the less active, and the sedentary. It is without

doubt a good rule for those who have weak stomachs, to restrict themselves to two or three pints of liquid food during the day, since a moderately dry diet is found to conduce, in such cases, to the restoration of a healthy tone of stomach, and to the recovery of health and strength. All trainers to athletic exercises remark, that drinking much swells the belly, is bad for the wind, and encourages soft, unhealthy flesh; and those who are suffering under indigestion, or severe bilious disorder, will universally find, that an indulgence in much liquid impedes digestion, and renders them very uncomfortable.* It is a good rule to drink only with solid food,

* My experience, for some years past, fully corroborates the correctness of the following observations. "We believe that much of the *thirst* which is made the excuse for drink, both at and after dinner, arises either from a *bad habit*, cultivated by long usage, or from eating too much in quantity, or food of an improper quality. We know several instances of dyspeptics who never could dine without drink both at and after eating; but who, on being put on a proper plan of diet, both as to kind and amount, required no drink at all, or not more than a cup of coffee when the repast was finished. We repeat it, then, that thirst, or the necessity for more than a very little drink with our principal meal, is, in general, a symptom that there is 'something rotten in the constitution of Denmark.'"

Medico-Chirurgical Journal, 1827.

and seldom on an empty stomach, or after long fasting, excepting under the pressure of great thirst; and also to drink little and often at meals, rather than a great draught at once. A given quantity of fluid will quench the thirst better if taken by mouthfuls at a time, than when drank at once. Most persons who have weak digestive powers, find drinking half an hour, or an hour, after dinner, better than drinking with that meal.

A variety of liquors at the same meal is certainly bad.

As it respects the taking of liquids warm or cold, this is a point which must be determined by circumstances. The valetudinarian and the aged generally find their stomach most at ease under the use of lukewarm drink, but the strong man does not commonly require it in any other than its natural temperature, especially if it be fermented liquor. In cold weather, however, the drink ought frequently to be warm; but the practice of taking it very hot is pernicious.

OF CONDIMENTS.

Condiments are those substances which are taken with our food to promote digestion, or to correct some hurtful property in the food taken; and as they are employed both with solid and liquid food, they properly fall to be noticed in this place. It may be observed as a general rule, that wholesome seasonings, when used in small quantities, merely to give sapidity to the food, certainly have a tendency to increase the appetite, and to promote digestion; but where they are either unwholesome, or taken immoderately, they tend very much to weaken the stomach, to occasion acrimony in the fluids, and to produce a general irritation in the whole system.

Condiments are usually divided into the saline, the sweet, the acid, the oleaginous, and the spicy or aromatic.

The chief saline condiment is *salt*, and a very valuable one it is. It is a natural and necessary stimulant to the digestive

organs, especially of carnivorous animals, and its daily use seems to conduce much to the preservation of health and strength.

The principal advantages of using salt are, that it promotes the solution and mixture of the glutinous and oily parts of our food, and is peculiarly calculated as a solvent for fat meat; that it has a tendency to correct sourness or acescency, and, consequently, is a wholesome addition to vegetable food; and that it promotes the gastric and intestinal secretions, and a free perspiration. It is also of much use where a large quantity of animal food is consumed, on account of its preserving the fluids from that putrescency, which the free use of such food tends to produce. From these observations it will appear, that salt is more necessary with fat meat than with lean; while less of it should be taken by the young, florid, and hale, than by those of an opposite age and habit.

Sugar is nutritious, antiseptic, and laxative. In moderate quantities it is wholesome, but being very fermentable, is apt, in some constitutions, to produce flatu-

lency, heat, and thirst. Rickety children, chlorotic girls, hysterical women, and all who are troubled with acidity and weakness in the stomach, or bowels, should use it sparingly, and those who are anxious to preserve their teeth white and sound, should not make free with it.

Vinegar, in small quantities, is a grateful and salutary stimulus to the stomach, correcting the putrescency of animal food, and the flatulency of vegetable. It is particularly useful when eaten with animal food of a viscid or glutinous nature, as it promotes its digestion, and it is on this account that we commonly take it with the meat of young animals. Its use is improper in many valetudinary cases, especially for gouty persons, and those troubled with red gravel, or costiveness; in green sickness; and for rickety patients and young children.

It is very proper for those troubled with *white* gravel.

Pickles are merely vegetable receptacles for vinegar, but the vegetable being hardened by the acid renders it somewhat difficult of digestion, and, therefore, pickles

are not much to be recommended. The pickled onion seems to be among the most wholesome of this sort of condiment.

Salad *oil*, when used as a seasoning to raw vegetables, checks their fermentation in the stomach, and thereby prevents them from proving too flatulent. Used in this manner, in small quantities, it proves a help to digestion; but when taken in considerable quantities, it has an opposite effect, and lays the foundation for bilious complaints. It seldom, however, agrees with weak stomachs; for in such cases, even in its mildest state, it easily generates a rancid acrimony, extremely injurious to digestion.

The aromatic condiments consist chiefly of the foreign spices, as pepper, cayenne pepper, cinnamon, nutmeg, mace, cloves, and ginger, and of a few garden roots and seeds, as garlic, horse-radish, and mustard.

Most of these are wholesome, when taken in small quantities with food of a flatulent or cold nature, and by persons who require a gentle stimulus. All the

varieties of pepper, as well as cloves, and garlic, are heating and stimulating, and should, therefore, be used sparingly, especially by persons of a full or strong habit, and those disposed to inflammatory diseases. The best aromatic condiments for frequent use, are cinnamon, carraway, ginger, and mustard. Ginger is one of the most agreeable and wholesome spices, and mustard is a very useful condiment, especially in cold weather, and where the stomach and bowels are weak,

OF THE TIMES OF EATING, AND THE SORT OF FOOD BEST ADAPTED FOR EACH MEAL.

There can be no doubt, that regularity in meals is a point worthy of some attention from all men, and especially from the valetudinarian. Dr. Darwin has justly remarked, that those who have weak stomachs will be able to digest more food, if they take their meals at regular hours; because they have both the stimulus of the aliment they take, and the periodical habit to assist their digestion.

A few writers have differed respecting the number of meals that man ought to take in a day, but there is not much difference of opinion on this point at the present time, at least among the more able part of the profession. Physicians generally agree, that from three to four meals in the twenty-four hours, is the proper number for persons in general, whether in health or sickness. That this is enough for those in health there can be no reasonable doubt, and, in my opinion, it is equally certain, that it is sufficient for such as are sick or weakly. It is a very mistaken and prejudicial notion to suppose, that those who are delicate should eat little and often, because by following that course, scarcely two hours elapse during the day without the individual taking food, and thereby the stomach is kept in a constant state of irritation. The inevitable consequence of this is, that digestion and alimentation are much less perfect, and nutrition far less certain and complete. It should be recollected, that the stomach, like every other organ, needs its periods of repose,

and as digestion is seldom or ever completed in less than three or four hours, and it is evident we ought not to indulge in a second meal before the one previously taken is perfectly digested, it must be universally admitted, that we shall do wrong to make the intervals between our meals shorter than three or four hours, at the least. It is to be observed, that animal food is much longer in undergoing the process of digestion than vegetable aliment, and therefore the more substantial our repast, the longer ought the interval to be between that and the next meal. Where the organs of digestion are strong and active, vegetables are, for the most part, perfectly digested in two or three hours, and animal food in three or four hours; but when the digestive functions are weak, these periods are sometimes extended. Upon the whole, few can do wrong to take four meals a day, provided the supper, when any is taken, is very slight; though many will find three meals a day quite enough. For persons in the higher ranks of life, the best periods are

eight, twelve, four, and eight o'clock, that is breakfast, luncheon, dinner, and tea; for those in the middling classes, eight, two, six, and nine o'clock, No dinner should be taken later than four o'clock, and in fixing this hour, I go to the utmost limit allowed by the principles of health and longevity. Three o'clock is a much better hour for fashionable society, and it behoves such part of the community to remember, that it is as easy for them to make three o'clock the *fashionable* hour of dinner, as seven or eight o'clock, and they may depend it would be much better for their health and spirits.* Independent of the manifest impropriety of taking our principal meal in the evening, when the vigour of the body is much on the decline, the pulse quickened, and all the secretions lessened, a grand evil attending the practice is, that

* I believe it was the constant practice of our late excellent and illustrious Sovereign, to dine at two o'clock, which I consider one among the numerous proofs he afforded his people, of his sound judgment and wisdom. As society is at present constituted, this is the best hour for that repast, for all persons above the lower orders.

a late dinner inevitably leads to a late retirement to bed, and on this follows a late rising in the morning. These evils combined, have a great effect upon the strength and spirits, more especially of those who are not strong and active.

The principal meals are breakfast, dinner, tea, and supper; or breakfast, luncheon, dinner, and tea.

Breakfast. This is one of the most natural of our meals, and for which a temperate person ought to have a good relish, and in general, indeed, will have a great relish, if a proper course of living be pursued. In order fully to enjoy this meal, it is necessary that the individual should have risen an hour or more before partaking of it; that the supper on the preceding night should have been light and sparing, and the sleep refreshing. A proper supply of nourishment in the morning, is requisite to repair the loss sustained by fasting, and the increase of insensible perspiration during the night, and to fit the body for the active duties of life in the succeeding hours of the day. The solidity

of this meal should be regulated by the labour or exercise to be taken, and by the time of dining. Of course, the healthy, the laborious, and the active man will require a more nourishing breakfast than the valetudinarian, and the sedentary; and it will be found universally, that a substantial breakfast will enable us to wait with greater ease for a late dinner.*

With respect to the solid food at this meal, the best is stale bread, plain or toasted, biscuit, fresh eggs, and cold roast mutton, beef, or chicken. To a little butter, taken cold, spread on bread or

* In the reign of Henry the Eighth, wine and beer were used at breakfast, and the quantity served to one person was a pint of each. And it is well known, that a maid of honour, in the court of Queen Elizabeth, breakfasted upon beef, and drank ale after it. In those days, people of every condition rose early, were constantly in the open air, and took a great deal of exercise, which not only enabled them comfortably to digest such substantial breakfasts, but, indeed, made them necessary. Now, both the higher and middling classes of society rise late, sit much in warm rooms, go comparatively little into the open air, and take still less active exercise, and what is the consequence?—debility of stomach and bowels, and, consequently, of the whole frame, combined with general nervous irritability, and instead of being able to take a hearty substantial breakfast, thousands are compelled to sit down to two or three cupfuls of a watery vegetable infusion, with a slice of bread and butter.

biscuit, there is in general no objection, but the use of it on warm toast, rolls, or melted in any other form, should be avoided. Good fresh butter is decidedly the most wholesome.

Some have recommended *a dry* breakfast as peculiarly wholesome, but in general we require a due proportion of fluid aliment at this meal, to supply the great waste which the animal fluids invariably sustain during sleep, through the increase of insensible perspiration. It is certain, however, that many people take too much liquid in the morning, and it behoves those who have weak stomachs to be somewhat abstemious in this point, and more particularly in the use of tea and coffee. One breakfast-cupful of either of these liquids, ought to suffice for every bilious and dyspeptic subject. Good fresh milk may be advantageously taken in larger quantities, and it will be found particularly useful to many invalids, more especially to some nervous and enervated habits. Mr. Abernethy relates an instance in point, which is worth recording here. He says,—

CASE I.

" Now I have seen plenty of cases of great affection of the heart having been relieved, by putting the bowels to rights. There was a friend of one of the pupils here, whom he asked me to see; and, upon my word, I thought she had an organic affection of this organ; but recollecting these facts,* incident to my own case and others, I said, pray, Madam, is there not any particular time at which you find your heart get worse? ' O yes, (she answered,) always after breakfast.' Pray, what do you take to breakfast? The answer was, tea. O don't take tea any more: I would never take into my stomach that which seemed to provoke the complaint. This led to a lecture on diet, and the result was, that she was to take bread and milk; however, I thought it was a lost case. About a year after this time, I one day met this pupil in the street, and upon venturing to say, Pray, Sir, may I be allowed to ask how the young lady is? he replied, ' O, Sir, you have cured her, perfectly cured her, by causing her to take bread and milk to breakfast.' "

* The facts here alluded to, were great irregularity, and extreme rapidity of the pulse, unusual palpitation of the heart, and depression of spirits.

Dinner. I have already observed, that the hour of dinner should be about two or three o'clock. In addition to the evils already mentioned as arising from very late dinners, it may be stated, that by such a practice the meal is more indulged in than when taken at an early hour, and, consequently, inordinate repletion follows.

Tea. The time at which this repast is taken must depend on the time of dinner. If a late dinner is taken, that is, after four o'clock, no other meal ought to be allowed in the evening but tea, which should be served at about eight or nine o'clock. The practice of having tea so soon as an hour and a half or two hours after dinner, is improper, at least in most instances, because the digestion of that meal being then only half gone through, its completion is thereby impeded. It is true, that when the appetite has been indulged to the utmost at dinner, we find a mild, warm, diluting drink, to give ease from the sense of stomachic distention, and to prove soothing, but those who wish to preserve their health, and prolong their lives, must avoid

such unrestricted indulgence as renders an early recourse to a warm diluent necessary. Under a proper course of living, fluid enough is taken at dinner, and we ought not to have recourse to tea sooner than from three to four hours afterwards.

Supper. Cardan observes, that he had conversed with many persons who had lived to be an hundred years of age, and they all declared to him, that they had made it a rule to eat little at night. This is a fact that will, perhaps, have more weight with most persons, than a great deal of reasoning on the subject. Those who take a late dinner, should eat *no* supper, but those who dine early, say about one or two o'clock, may require a slight repast about nine o'clock, but not later. In summer, some ripe fruit, in season, with a small biscuit, will be very proper, especially if the individual is troubled with excess of heat or feverishness during the night. In winter, some dry toast and a small glass of mild beer, or some biscuit, or an egg lightly boiled, with bread and butter, will be generally suitable.

In case of a late dinner, some *luncheon* is almost always necessary, as it is highly improper to fast from breakfast to a late dinner. It may consist of a little good soup and bread, or an egg and some bread and butter, or a very thin slice of cold meat and bread, with a little malt liquor, or half a glass of wine. To eat plentifully of meat at luncheon, is not advisable. The best time for this slight repast, is between twelve and one o'clock.

The chief rule to be observed at meals, is *to masticate your food well, and to eat slowly.* It is of consequence also to cultivate a spirit of cheerfulness and sociability. The period of meals should be one of perfect relaxation from all worldly care and anxiety, and from all close thought.

After all substantial meals, there should follow half an hour, or an hour, of quietude and ease, when the active duties of life may be entered upon, or exercise may be taken. The interval betwixt breakfast and dinner, is an excellent period for exercise, and the valetudinarian should not be satisfied with less than two or

three hours of it, at that time. This will duly accelerate the circulation, strengthen the digestive powers, and not only create an appetite for the dinner, but enable the stomach to digest the food then taken with greater ease and facility.

OF THE QUANTITY OF FOOD THAT OUGHT TO BE TAKEN AT THE DIFFERENT MEALS, &c.

In the consumption of food we are liable to commit errors, both as to its quantity and quality, of which the former error is by far the most detrimental. For there can be no doubt, that a very small quantity of food of indifferent quality, will, in general, be more easily digested, and do less injury to the constitution, than a large quantity of that which is in point of quality superior. Again, when we reflect on the multiplied evils resulting from undue repletion, the small quantity of food necessary for life and health, and the numerous manifest proofs we have, that a rather scanty diet most powerfully conduces to health and longevity, every unprejudiced

man must admit that the subject of quantity is a most important one.

It is the opinion of the majority of the most distinguished physicians, that intemperance in diet destroys the bulk of mankind; in other words, that what is eaten and drank, and thus taken into the habit, is the original cause of by far the greater number of diseases which afflict the human race. Every medical practitioner has abundant proof of the correctness of this sentiment; and all persons may, if they please, be convinced of the reality of the fact, that a very small quantity of food conduces to long life, by observing the mode of living, in this respect, pursued by such as attain to a good or an extreme old age. It is rarely that a very aged person is to be found, who has not observed a rather scanty diet. Old Parr, who lived to see his hundred and fifty-third year, was always exceedingly temperate, and there is every reason to believe, that he would have lived many years longer had he not been taken into the family of the Earl of Arundel, for in ex-

amining his body the physicians found every inward part sound and strong. They, therefore, justly concluded, that the change to a plentiful diet so disordered his body, as to prove a speedy cause of death. Henry Jenkins,* of Ellerton, in Yorkshire, who lived to the age of one hundred and sixty-nine, was a poor fisherman, and when he could no longer follow this occupation, he went begging about Bolton, and other places, his diet being uniformly coarse and sour. The Cardinal de Salis, Archbishop of Seville, who died at the age of one hundred and ten, states his diet to have been invariably sparing; and that Cornaro's (who lived to above an hundred years) was so, is well known. The celebrated physican Galen lived to see his hundred and fortieth year, and was, from the age of twenty-eight, always sparing in the quantity of food he took. In addition to these instances, I may

* He remembered the particulars of the battle of Floddenfield, which happened when he was twelve years old, and he is supposed to be the oldest person, satisfactorily authenticated, in any country since the days of Moses.

remark, that in the fourteenth volume of the Philosophical Transactions, there is an account of a number of very old persons in the north of England, and it is said, "their food in all this mountainous country, is exceeding coarse, as salted beef, and sour-leavened oat-bread."

But a small quantity of food does not only ward off disease and prolong life, it likewise preserves the bodily strength, and it will, therefore, be found *universally*, that *(cæteris paribus)* those aged persons who consume the least food in moderation, are the strongest. Sir John Sinclair mentions an extraordinary instance of this, in the person of an aged physician of eminence in the medical military department, (I believe the distinguished Dr. Jackson). This physician, in describing his own state, says, "I have wandered a good deal about the world, and never followed any prescribed rule in any thing; my health has been tried in all ways; and by the aids of temperance and hard work, I have worn out two armies, in two wars, and probably could wear ou

another before *my period* of old age arrives. I eat no animal food, drink no wine or malt liquor, or spirits of any kind; I wear no flannel; and neither regard wind nor rain, heat nor cold, when business is in the way." The same writer states, that the late Alderman Watson informed him, that at the age of seventy, he was free from every bodily complaint, and had never paid five shillings a year to the faculty in the course of his life, which he attributed to his having restricted himself to fourteen ounces a day of solid food.

Generally speaking, the quantity of food must be proportionate to the appetite or feeling of want, to the waste of the organs, to the energy of the stomach, and, lastly, to the state of the body as it respects health or disease.

The whole of these circumstances must be considered in order to ascertain the quantity proper in given instances, for if we depend on either of them singly, they are very likely to mislead us. The appetite, for example, often outstrips the energy of the stomach or digestive faculty,

but if the individual is acquainted with the strength or weakness of his digestive powers, (which all may and ought to be), and is on his guard, he will know when to stop. When a person has little or no appetite, it is a certain proof that but little food is required; and when there is a good appetite, it is a valuable rule not to indulge it to the utmost, but to leave off when the feeling of want is in a great measure allayed. The stomach does not *complain* chiefly because it is empty, as has sometimes been said, but because an admirable sympathetic connexion associates it with the uneasy feelings of other parts, and makes it to suffer through the mere wants of other organs. Therefore, the object in taking food ought to be, to supply the waste or wants of the system in general, and if we take time at our substantial meals, and linger a little during the repast, those in health will be able to ascertain the proper quantity, and find that quantity to be small; but if, on the contrary, we eat in haste, we are almost sure of taking too much.

It is worthy of particular observation, that in health, if food be taken in moderate quantity, of good quality, and at a proper time, it fulfils the purposes of nutrition, without its introduction into the digestive organs and circulating system, causing fatigue, depression, or any uneasiness; and, consequently, if after a meal we feel ourselves heavy, torpid, and sleepy, there can be no doubt that we have exceeded the bounds of propriety. *Louis Cornaro* used to speak with delight of the lightness, cheerfulness, and serenity he felt, after partaking of the small portion of food which he was accustomed to enjoy; and there is not an individual who, like him, proportions his food to the wants of his system, but finds the same *immediate* effects.

But the condition of the body, as it respects health and disease, is a material point. Disease and weakness are necessary and invariable concomitants, and it is a common and dangerous error among the sick and valetudinary to suppose, that by increasing the quantity of their food

they shall augment their strength, and be better able to conquer their disease. The reverse of this is the truth, and the reason of it is obvious. In all corporeal maladies the digestive functions are much affected, and in the majority, they are chiefly and primarily concerned; they are, therefore, for the most part, in a state of considerable irritation and debility, and by increasing the quantity of food beyond the small supply which they can then bear with ease, this irritation is strengthened, and with it the existing malady. But if, on the other hand, we carefully regulate our supplies of aliment under such circumstances, we adopt a principal means of lessening irritation in the stomach and bowels, and likewise in the particular part of the body diseased, while we afford all proper nourishment, and thereby assist nature in her efforts to restore the frame to health, and the medicines made use of are capable of exerting their full effect. These are the reasons why a considerable diminution in the quantity of aliment, is a grand agent in the successful treatment of chronic

diseases. This fact may be turned to great advantage, by very many invalids, and I would enforce it on the attention of all those who have been suffering for a long period from debility and disease.

It may be stated as a general rule, that the strong, robust, and active, require a larger quantity of food than the weakly, delicate, and sedentary; infants need less than children, and children than adults; and the aged ought to lessen their quantity of solid aliment in proportion to their age, and the strength of their digestive functions. Women, in general, need much less food than men, and all persons should take a smaller quantity in the relaxing days of summer, than during the cold of winter.

I do not suppose, that many of my readers will take the trouble to eat and drink by weight and measure, nor indeed do I wish it; but it is desirable that all persons should know the quantity of food, by weight and measure, which most people require, that is, which most effectually contributes to the nourishment of the body,

and the prolongation of life; and the result of various enquiries on this point will now be stated. If the average quantity is known, an individual will be able, at all times, to determine respecting the quantity he ought to consume, and to the weakly and the invalid, I am persuaded, this is a species of information capable of being turned to good account.

Dr. Cheyne has recommended the following quantity of food as sufficient for a healthy man, of ordinary stature, not following any laborious employment; viz. eight ounces of meat, twelve of bread or vegetable food, and about a pint of wine, or other generous liquor, in the twenty-four hours. He adds, that the valetudinary, and those employed in sedentary professions, or intellectual studies, must lessen this quantity, if they would wish to preserve their health, and the freedom of their spirits long,* and this is undoubtedly true.

Dr. Bryan Robinson, when he had

* Essay on Health, page 34.

passed his sixtieth year, was seized with an alarming paralytic disorder, which led him to pay particular attention to the quantity of his food, and he states, that by lessening it, he freed himself from the returns of a *sore throat* and *diarrhœa*, to which he had long been occasionally subject, and also greatly recovered from his paralytic weakness. He confined himself to about eighteen ounces of solid food, twenty-four ounces of liquid food, and ten ounces of water in the twenty-four hours. It is probable, that at his age he might have lessened this quantity a little, with increased advantage.

Cornaro, at the age of forty, found that twelve ounces of solid food, and fourteen ounces of wine, or twenty-six ounces in all, was as much as he could consume with safety; and when, as he advanced in age, his friends advised him to increase the quantity a little, he found the addition of only two ounces of solid, and the same proportion of liquid food, occasioned a serious illness, and he was compelled to return to his former allowance. It may

be worth while to notice here Mr. Abernethy's sentiments, respecting Cornaro's mode of living. He says,—

"When patients apply to me, I offend them greatly by telling them they have their health in their own keeping. If a man were to do as Cornaro did, he would be rewarded for it by a long and happy life. Cornaro was given over by his physicians at the age of thirty-five; he saw there was not the least chance of recovery, if he continued to swallow the trash they were in the habit of giving him, and that there was no good in putting food into his stomach, if his stomach could not digest it. So, said he, 'I dropt the plan pursued by my physicians, and adopted a regimen of my own.' The principal beauty of Cornaro's life was the happy state of mind in which his continued temperance preserved him. Now, what I propose as a diet, is Cornaro's diet, and it is no fanciful system. The diet should always be of a moderate quantity, it should not be wholly vegetable or animal, but it ought to be of a nutritive kind."*

Many think that two much stress is laid on the doctrines of Cornaro, and that his

* Anatomical Lectures.

habits ought not to be introduced as the standard of dietetic perfection. Dr. Paris says, (Treatise on Diet, page 261,) "Nothing can be more absurd than to establish a rule of weight and measure upon such occasions." But it must be recollected, that Mr. Abernethy recommends such a diet chiefly, (if not exclusively,) to *patients*, to those who are labouring under some bodily malady, and in such circumstances, I believe, correct observation and experience will very generally sanction the value of the practice. I am not disposed to advocate the cause of absolute weight and measure, that is, of weighing the solids and measuring the liquids, but am, nevertheless, firmly persuaded, that the majority of the sick and delicate will find it of inestimable advantage to be able pretty accurately to determine by the eye, the above or any similar quantity, and nearly to adhere to it, and that they will experience this guide to be a more certain one, and of greater controling power, than "a careful attention to eat slowly, and to the first feeling of satiety." It is remarked by Dr. Philip, to

whose recommendation Dr. Paris refers, "there is a moment when the relish given by the appetite ceases; a single mouthful taken after this, oppresses a weak stomach." It should be observed, a single mouthful taken after a certain quantity has been swallowed, and much before the relish given by the appetite ceases, will very often infallibly oppress a weak stomach, and, therefore, this is a far less valuable rule than Cornaro's. Indeed, it cannot be questioned that a small portion of food taken beyond the certain quantity now alluded to, and before the relish of appetite ceases, will very frequently oppress the stomach and system of the delicate, although they may hardly be sensible of it at the time, or for some hours after. This oppression is not always sensibly felt in the stomach, although the constitution itself sensibly feels it, and the patient's recovery is, consequently, not so progressive and decisive as it would otherwise be. This is a point not worth insisting upon to those in health, but as it respects the sick and weakly, it is of much importance, and,

therefore, I greatly prefer Cornaro's plan of adhering to that absolute quantity, which is found by careful observation to conduce most certainly to the recovery and continuance of health and strength, than to the rule of eating slowly, and carefully attending to the first feeling of satiety. The latter will often mislead, but the former never can.

As a general rule, I think the following quantities of food will be found those which best conduce to the preservation of health, and prolongation of life, in the weakly, the sedentary, the invalid, and the aged,—viz.

		Ounces.
Breakfast,	Bread and butter, or biscuit and butter, &c.	Four.
	Tea, &c. in dilution.	Eight.
Dinner,	Bread or other vegetables	Two.
	Meat	Seven.
	Light Wine or malt liquor	Six.
	Water	Two.
Tea,	Bread and butter, or biscuit, &c.	Three.
	Tea, or other liquid	Eight.

Total during the day, 16 ounces of solid, and 24 ounces of liquid food.

In the case of any severe chronic disease, a strict adherence to these quantities will be found of striking advantage, in aiding the powers of exercise and medicine to overcome the complaint. I would strongly advise those who are suffering from protracted chronic gout, severe rheumatism, or indigestion, or derangement of the general health in whatever way appearing, to try these quantities *exactly* for a few weeks or months; and will venture to assert, that, in numerous instances, the benefits arising therefrom will be found almost incredible.

But I ought to add, that many invalids, who have their digestive powers greatly enervated, will find it necessary to lower even this moderate quantity of food, and here they must be guided by their feelings, for they may be assured, that if this amount occasions any uneasiness or heaviness after meals, though at the distance of two, three, or four hours, they have taken too much, and that the quantity ought to be gradually lessened, till they arrive at that which they find to be fol-

lowed with satisfaction, and a return of appetite in a reasonable time. Dr. Johnson correctly remarks, that the dyspeptic invalid "will often derive more nutriment and strength from four ounces of gruel every six hours, than from half a pound of animal food, and a pint of wine;" and he further observes, "on six ounces of animal food, a biscuit, and a glass of water, I have known invalids dine for months in succession, and attain, on this regimen, a degree of strength and serenity of mind, beyond their most sanguine hopes."*

Those who are in perfect health, and such as take much exercise, or labour hard, will require a larger portion of food, and the solids may be increased to 20 ounces and the liquids to 40 ounces; but hardly beyond that with safety.

When persons live up to the utmost limit of rational indulgence, as it respects the quantity of aliment taken, it is an excellent plan to observe occasionally a

* On Morbid Sensibility of the Stomach, p. 50.

day of abstinence. This is a grand means of preserving health under the habitual use of a full diet, and is worthy of particular attention from those who follow such a course, as many individuals of that class will not find it a difficult matter to live low, or *maigre*, as the French say, one day in a week, or a fortnight, although they find it too hard a task to limit themselves daily to a proper quantity. By adopting this plan, many who live freely would enjoy better health than they do. And it should be observed also, that when those who live temperately, happen to indulge inordinately, it is a most desirable practice for them to live very low, for the next day or two. These rules are founded on the fact, that occasional fasting is one of the best antidotes against too frequent feasting. An author of reputation* remarks, that he knew "a person of great literary eminence, (John Home, the author of Douglas,) who lived only occasionally in London, and bore, without

* Sinclair, in Code of Health, p. 198.

inconvenience, the luxuries of that capital, by following one rule, that of eating only a poached egg on Sunday." John Home not only acted a most wise part in doing so, but he selected for his purpose the best day of all the seven.

I need hardly add, that excessive abstinence is highly detrimental; it exhausts the animal spirits, impairs the digestive powers, enervates the whole frame, and, if long continued, induces a state of debility from which it is often difficult entirely to recover. But this is an error we very rarely witness.

I shall conclude this subject with a few miscellaneous rules relating thereto. 1. It is improper to eat immediately after great exercise, or when we are hot. We should first rest a little, till the body is cool, and the stomach has recovered itself from the hurrying effects of the exercise. 2. It is highly advisable to restrict ourselves to those kinds of food, which experience points out as the best calculated for our constitution and stomach. 3. A variety of dishes at dinner

ought to be avoided, even by the healthy. 4. It is a most objectionable practice to eat a small quantity of food, as a piece of bread or a biscuit, for example, immediately before dinner, or any substantial meal

OF COOKERY.

In a book like the present, it is necessary to say a little on the subject of cookery, in order that the valetudinarian may be able to select that process which will best conduce to his health and strength.

It is certain that simple cookery is a useful art. By it our food is rendered more palatable and digestible, and more conducive to health. It includes chiefly the following modes of dressing meat:—1. Roasting. 2. Broiling. 3. Boiling. 4. Stewing. 5. Frying. 6. Baking.

Roasting was certainly the first mode invented to prepare animal food; for boiling is a more complicated process, and required the art of manufacturing

vessels that could withstand the effect of heat. It is an excellent method of rendering meat wholesome and nourishing, as, without greatly changing its chemical properties, it renders it more tender, sapid, and high flavoured, whilst there is not so much dissipation of its nutritive juices as in baking, boiling, and some other processes. It is important to observe, that unless meat be kept after it is killed till the fibres begin to lose their firmness and tension, it will not become tender by roasting. The perfection of roasting consists in *doing* the meat neither too slowly, so as to wither it, nor too rapidly, so as to burn it. A small joint is best roasted on a string, by means of the bottle-jack; a large joint requires the spit. Our meat in England is often overdone, and particularly over-roasted. The process is carried far enough, when the steam of the meat puffs out in jets towards the fire, as this steam comes from the interior of the joint, and makes its way through the brown crust.

Broiling is a most valuable mode of dressing animal food. It is found that

broiled meat contains more uncoagulated albumen, gelatine, and other uncombined chemical principles, than if it had been either roasted or boiled. It is this that renders broiled meat more juicy and sapid than when roasted; and it must also make it more wholesome and nutritious. For restoring the strength of invalids, it is the best mode in which animal food can be dressed, both from its nutritive qualities and from its being easily digested, as the juices are so slightly altered, that they require, comparatively, little preparation to convert them into good chyle and healthy blood.

Boiling is also a useful method of preparing some kinds of animal food, rendering it more soluble, without destroying, if properly done, its nutritive qualities. It is, however, a grand mistake to suppose it to be well calculated for weak stomachs, for, in general, boiled meat is neither so easy of digestion, nor so nutritious,* as that prepared by either of the

* It is fully ascertained, that the residue of boiled meat passes into the large intestines, in a much shorter time than

two foregoing processes. Boiled beef, for example, is inferior to roast in every point of view, and boiled mutton, though a milder food, especially for invalids, cannot be considered so wholesome as when roasted. So true is it that boiled meat is inferior to roast, for the weakly and delicate, that almost every dyspeptic becomes immediately sensible of the difference by attention, and in severe indigestion, boiled meat of any kind is often found very objectionable, when that which is broiled, or even carefully roasted, can be taken with satisfaction and benefit. Boiling is not at all calculated for the flesh of young animals.

It is, however, well adapted to vegetables, rendering them more soluble in the stomach, and depriving them of a considerable quantity of air, so injurious to those of weak digestive powers. Very striking and unexpected effects are some-

the residue of that which is broiled; which is a proof of its being much less nutritive, since the most nourishing food is always found to be longest under the operation of the digestive functions.

times produced from the boiling of vegetables, as in the case of several plants, which are very acrid, and even poisonous, in a raw state, becoming bland, sweet, and wholesome, by simply boiling them in water. The potatoe is a familiar example, being in its raw state, nauseous and unpalatable, perhaps even in a slight degree poisonous, as it is one of the nightshades, *(solanum tuberosum)*, but when dressed, it is rendered farinaceous, digestible, and wholesome. A more striking instance still is the cassava *(jatropha manihot)* of America, which is strongly poisonous before it is boiled, and afterwards is highly nutritious. The prepared cassava is well known in this country under the name of tapioca, and forms the basis of an excellent and nutritive farinaceous pudding.

Excepting bread, there is no vegetable article of so much consequence to man as the potatoe, and since its nutritive and wholesome qualities depend very much on the manner of cooking it, (which is too often wretchedly performed,) I shall

state the best mode of preparing them for the table. It is of consequence that they be as nearly as possible of one size; that they be well washed and cleared of earth or dirt, but not pared; and that they be put with cold water into a clean pan or kettle, for half an hour or an hour. They ought then to be put into a fresh quantity of cold water, with a little salt, and boiled in a kettle or saucepan, closely covered, in the most expeditious manner possible. No more water should be put in than merely to cover them, as they produce themselves a considerable quantity of fluid. When sufficiently done, the water is *to be instantly poured off*, and the kettle, containing the cooked potatoes, to be placed on the side of the fire, with the cover off, until the steam be completely evaporated; the potatoes are thus rendered *quite dry and mealy*, before they are sent to the table.

Stewing has a similar effect to boiling, in depriving the meat of much of its best juices, and other nourishing properties, which are washed out of the fibres by the

constant entrance and recess of the water during the process. Stewed meat is also, in general, still less easy of digestion than that which is boiled, and, therefore, it is a mode of cooking that cannot be recommended as fit for frequent use, although it may be useful on certain occasions.

Frying is an objectionable mode of cooking, because it cannot be performed without the use of fat or oil, and on account of its rendering the external surface of the meat very brown, dry, and therefore indigestible. But a great deal depends on the manner in which the process is conducted; the meat fried by some cooks being far more digestible and wholesome than what is so done by others. Fried potatoes, and fried pudding, are very unwholesome, and must be avoided by every invalid.

Baking is a process to be preferred to frying, but is not so excellent as either broiling or roasting. It differs from roasting in not permitting the escape of the vapour exhaled from the meat. There is a greater retention of the oleaginous juices of the

meat, which are generally in a burnt empyreumatic state, rendering the food less digestible and nutritious. Yet baked meat, when carefully done, is sufficiently wholesome for occasional use.

I have already remarked (page 42), that when animal food is dissolved in water, and formed into a gelatinous solution or jelly, it should be invariably taken with stale bread, because without this the nourishment it imparts is inconsiderable. I would here observe, that this mode of extracting the gelatinous parts of flesh, in order to present them in a pure and concentrated state to the invalid, is liable to strong objections, from their being less digestible, as well as less nutritive, than the meat itself. This is contrary to the general notion, but it is undoubtedly correct. Jellies, of any description, cannot be much recommended to the invalid.

CHAPTER II.

OF REGIMEN.

In strictness, the term *Regimen* signifies any rule, but in the present volume, I mean by it, chiefly, a proper regulation of the following means of preserving health, and prolonging life; viz.—1. Air; 2. Exercise; 3. Sleep; 4. the Government of the Passions; 5. Clothing; and also, 6. the Art of Training for Health; each of which will be treated of in that manner which appears to me best adapted to accomplish the objects I have in view; namely, to lay before the reader an unvarnished statement of the inestimable advantages arising from their use, and to point out the best methods of adapting them to the purposes of promoting health, removing disease, and prolonging life.

I would here bespeak the reader's attention to the different sections of this

chapter, and more especially to that which adverts to the excellent and various uses of *exercise;* being convinced that while all these subjects are but too little attended to, and their value too imperfectly known, that of exercise demands particular regard, on account of its remarkable effects on health and longevity. To all invalids it is a subject of the highest moment. None will accuse me of undervaluing the advantages resulting from attention to diet, in the cure of disease; but it is proper for me to state, that there appears to me one grand point of superiority which exercise in the open air possesses, in this respect, over even diet, which is, that it is capable of exerting a direct and positive curative effect, while the effects of diet, in the same circumstances, are rather negative than positive. In using proper food, when afflicted with any corporeal malady, we cut off a principal source of irritation, and take an effectual means of nourishing and strengthening the body, and thereby of assisting nature in its efforts to free the constitution from an unwelcome and op-

pressive visitor; but beyond this the virtues of suitable food can scarcely be said to extend. On the other hand, exercise has often a direct and powerfully curative effect, from its accelerating and equalizing the circulation, when tardy and irregular, from its also strengthening the vessels and nerves, facilitating the excretions, and greatly improving the tone of the digestive organs. From a consideration of these facts, we see the reason why a correct diet should often fail to do little more than preserve the patient from getting worse, and that an efficient regimen is found absolutely necessary to produce much positive amendment, or to perform a sound and lasting cure. To illustrate this subject still further, we may advert to the case of a person suffering under severe chronic gout, or an aggravated attack of indigestion, and we shall often find, that if such patients attentively observe a suitable diet, they gain much advantage; but if they go little beyond this attention to diet, supposing it is even combined with skilful medical treatment, the gouty man, in nu-

merous instances, is still very liable to frequent fits of his tormenting disease, and will not unfrequently find himself getting more feeble, and the fits to gain an increasing power over him, while the dyspeptic experiences weakness of stomach, and general debility remaining, with a liability to a renewal of his disorder, on the operation of slight causes. But should these patients become convinced of the value of regimen, in the sense now attached to it, and enter into its adoption with spirit and perseverance, they very soon discover that they are using means which have a superior and remarkable power in resolving obstructions, and in so facilitating and regulating all the secretions, and imparting an increase of tone to every function of the body, as to afford them a most flattering prospect of being at length enabled entirely to conquer their disease. Under the operation of this regimen, the gouty sufferer finds his crippled limbs to become free and strong, his digestive powers to be augmented, and his spirits surprisingly exhilarated; and the dyspep-

tic,* bilious subject experiences an equally beneficial change in the increased tone of his stomach and bowels, in the more healthy secretion of bile, the keenness of his appetite. and the greater quantity of food he can take, not only with a relish, but without the uneasiness he before felt severely from indulging in a much smaller quantity; effects which both have found diet and medicine could only *partially* produce.

A great deal is now said about diet, and also respecting the efficacy of particular medicines, in the cure of indigestion, liver complaints, tic douloureux, gout, derangement of the general health, and numerous other chronic maladies, and much of what is advanced on these subjects by many distinguished men is just; but I cannot do otherwise than insist on the superior power of regimen in these cases, the value of which is but half apprehended, especially in the treatment of the more severe and protracted examples of such affections. In the latter instances,

* Dyspepsia means indigestion.

I mean the protracted cases, how often do we find the best medicines to afford no more than a slight and temporary benefit, and diet also to be attended with little positive good; in such examples, all the secretions are evidently much deranged, and the energies of the frame greatly depressed and enfeebled. Here I have no hesitation in saying, that regimen will often surprise the patient by its admirable effects; and it will be admitted, that means which exert so salutary and permanent an influence on the severest cases of chronic disease, many of which were considered desperate, and where both medicine and diet manifested a very limited power, must be likewise of uncommon use in those instances of such diseases as are less severe and intractable. Very many patients are long and anxiously seeking relief from medicine and diet in vain, because they are seeking it where it is not to be found.

These observations refer to the effects of regimen in the cure of disease; but if we consider its power in the preservation of

health and strength, and the prevention of disorder, we shall see that it is there no less certain and remarkable. Every one acquainted with the subject, must have been struck with the surprising difference existing between the present inhabitants of this nation, and those of the last and preceding centuries, in point of strength of body, and freedom from that irritability of constitution which so manifestly paves the way for an attack of disease, under the incidental operation of any deleterious agent. And to what, it may be asked, can this difference be owing, but to our more luxurious and sedentary habits? It cannot be correctly said that we eat and drink more than our forefathers, and that thence arises the unparalleled multiplication of disease; because the old English ate and drank very plentifully, perhaps even much more than we do in the present day; but we take much less active exercise than they did, we indulge much less in the salubrious and invigorating influences of the open air, and retire later at night, and rise later in the morning. These

are the grand reasons why almost every one we meet now, is complaining of indigestion, in other words, of weakness of stomach, and, consequently, of general weakness; and why all those painful and alarming maladies which have their foundation in debility, as nervous disorder, tic douloureux, scrofula, water in the head, croup, &c. &c. have recently become so widely spread.*

In point of diet, the old English ate and drank largely of strong, nourishing food, and with impunity; because the strength imparted by exercise, air, and sleep, enabled them to do so; but now people are so careful to have their doors, windows, and carriages air-tight, and so fearful of taking too much exercise, that in numberless instances they are obliged

* "It was a rare thing, in the early part of my life, to see many cases of disease produced by increased vascular action, which are now common; and so it is with diseases depending on undue nervous action in a part; for I do not think there was such a thing as *tic douloureux* ever dreamt of in my early days. How this comes I don't know. There has been a great increase of medical men, it is true, of late years, but, upon my life, diseases have increased in proportion." *Abernethy's Surgical Lectures.*

to be satisfied, at dinner, with a small piece of lean mutton and a biscuit, or something equally simple, or suffer under a fit of indigestion; and, in many cases, the substantial meal is necessarily softened down even to water gruel! This is a most unnatural state.

The inference to be drawn from the preceding facts is, that regimen, of which exercise is the chief branch, is of pre-eminent importance in the prevention and cure of all diseases of a chronic character, and also in the augmentation of strength, and the prolongation of life.

SECTION I.

OF AIR.

It is a well known fact, that though men have lived without food even for several days, they can hardly exist for a few moments without breathing atmospheric air; which is a sufficient proof of its vast importance both to life and health.

Breathing pure atmospheric air restores the florid colour and stimulus of the blood, the pabulum of life; it consequently renders the blood fitter to repair some of the most essential parts of the body; it is a chief means by which the body is kept at nearly the same standard of heat or temperature; it aids also the circulation of the blood; and it enables the body to get rid of some substances destructive to health and life.

The food we eat, after being subjected to various operations, is at last converted into a soft milky juice, technically called

chyle. This is absorbed in the small intestines, and in the course of its circulation, passes through the lungs, and comes in contact with the atmospheric air which is drawn in by those organs in the act of respiration. It appears evident, that from that contact it receives, from the oxygenous part of the air, the red or florid colour by which blood is distinguished when arterial, in other words, when it is fit for the purposes of life.

Part of the air we inspire also combines with the blood, and it is supposed, that the combined heat, to which its gaseous form was owing, is thus set at liberty, and is partly absorbed by the lungs during respiration, and thus diffused through the entire system, by means of the blood. Were it not for this constant absorption of heat, the temperature of man, and of other animals, could never be so much higher than that of the surrounding atmosphere, notwithstanding the heat which they are continually giving out to the colder surrounding bodies.

Respiration of pure air is also one

means by which noxious or useless matter is expelled from the body. By the lungs, a quantity of about thirty-seven ounces of carbonic acid gas, is usually emitted in the course of the day, by a full grown person; a quantity, which if retained in the body, would be extremely prejudicial. By the same means, some of the superfluous moisture is extracted from the blood, and emitted. The quantity must vary; but amounts to several ounces a day. The blood is thus kept of a proper consistency.

From these facts we see the importance of respiration, and it will not be wondered at, that the air, according to its different qualities, can alter, and either greatly improve, or entirely vitiate, the whole texture of the blood, and the nature of the animal juices. The reason of fresh air being necessary is, that where oxygen is exhausted, no animal can live at all, nor for any considerable time, where it exists in too small a proportion; and when unwholesome gases are combined with it, disease always, and often death

ensues. Fresh air, therefore, is found as necessary for man, as clear water is to fishes; and thence the choice of good air is accounted, by all professional men, a circumstance of great moment in the regimen of health; indeed, it is proved to be so by a multitude of facts. In London, one half of the children born there, die before they reach their second year, owing principally to the impurity of the air. In the lying-in hospital at Dublin, the proportion was at one time found to be still greater; for, in the space of four years, ending in 1784, no less a number than 2944 infants, out of 7650, died within the first fortnight after their birth. It was fortunately discovered that this melancholy circumstance arose from their not having a sufficient quantity of good air to breathe. The hospital was therefore completely ventilated; and the consequence was, that the proportion of deaths was reduced to 279.* Hence there was reason to suppose that out of 2944, who had died in the space of four years before, no less a

* Thornton's Philosophy of Medicine, vol. i. p. 334.

number than 2655 had perished solely from the want of a due supply of air.

These circumstances merit the attention of all persons, and especially of those who live in crowded cities, and those who are much accustomed to frequent assemblies, and other places of public resort. It is calculated that every individual consumes about five cubic feet of air in an hour, or, in other words, deprives such a quantity of air of its oxygen, or vital principle. If an hundred persons, therefore, were confined in a room, 30 feet long, 25 broad, and 30 high, the whole air in that apartment, consisting of 22500 cubic feet, unless renewed, would be rendered noxious in about four hours and a half,* and the same scene would take place which was exhibited in the black hole of Calcutta, where, out of one hundred and forty-six Englishmen confined for scarcely twelve hours, only twenty-three survived. This shows us why crowded rooms, where

* By an experiment of the celebrated Hales, a gallon of air is spoiled by the steam of the breath in one minute, so as to be unfit for respiration; hence a hogshead, or sixty-three gallons, would hardly supply a human creature for an hour.

routs and other assemblies are held, should be so pernicious to the health of those who frequent them; and why they should so largely contribute to the production of that nervous irritability now so common among ladies of fashion. For beside the destruction of oxygen, and the great increase of carbonic acid, that perspiration which is expelled as a nuisance by one individual, must necessarily be injurious to others.

The celebrated Lavoisier found, at a theatrical entertainment, that before the play began, the air contained the following proportion of its usual substances.

Oxygen	27
Azote	73
Total	100

But towards the conclusion of the piece, the air of the place was as follows:—

Oxygen	21
Azote	76½
Carbonic acid, or fixed air	2½
Total	100

Hence the oxygen, or vital air, was diminished in the proportion of, from 27 to 21, or nearly one-fourth in the spacious area of a theatre, and in the same proportion was less fit for respiration than before, besides having a considerable quantity of carbonic acid accumulated in it.

These remarks will, I hope, make my readers fully sensible of the importance of a free and continued ventilation in their houses and apartments.

As it respects respiration abroad, it is essential for every one to breathe the fresh air at least once a day, for two hours. This is an indispensable law of health and longevity, and in saying for two hours, I state the shortest possible time that the fresh air can be indulged in, by all those who wish to live long and comfortably. I know some persons live many years, even in large cities, who do not, on an average, breathe the fresh air for half that time daily. But how do they live? certainly not in health and strength; but enervated in mind and body, frequently

complaining, and continually oppressed with lassitude, weariness and depression of spirits. The inhabitants of a town or city, in particular, ought not to suffer any day to pass over, without enjoying the pure open air, beyond its boundaries. A walk or ride for that purpose, ought to be considered, not merely as the means of exercise, but of special importance, for procuring the enjoyment of the purest vital nourishment, which, above all, is indispensably necessary to those who are much confined to their houses.

A daily exposure to the outward air, is absolutely necessary to secure us against the injurious influence of our variable climate. Too much sensibility in regard to all the impressions and variations of the weather, is one of the greatest evils which at present afflicts the inhabitants of Great Britain, because it is one of the most abundant sources of disease. Those who are constantly in the open air, disregard both cold and heat, and are but little affected even by wet; whereas those who are but little in the air, sensibly feel all

changes in the weather, and every exposure to extraordinary cold, or a little wet or damp, is apt to check their perspiration, already deficient, and to occasion cough, cold in the head, and general indisposition; and in how many instances this morbid susceptibility of the surface of the body, paves the way for a fatal attack of inflammation of the lungs, or consumption, is too well known to require any comment.

It is for these reasons, that the modern practice of retiring to a country house every evening, which is pursued by many respectable families, whose occupations are carried on in London, or other populous cities, is a most excellent one, and such as all who are similarly situated, and have the means, should adopt. Some think this too expensive a plan, but I can assure them that what they thereby lose in pocket, they will more than gain in *comfortable feeling*. Indeed, if we consider how greatly a free exposure to country air conduces to health, and how certainly constant residence in large cities, and

particularly in London, tends to shorten life, it may with great propriety be questioned, whether the plan now advocated does not, in the end, prove even the most economical. Dr. Garnett has correctly remarked, that going a short time to breathe the pure air of the country, every day, is much more effectual than spending whole days, or even weeks, in the country, and then returning into the corrupt atmosphere of the town, and residing constantly in it.

The valetudinarian, however, should be careful not to go abroad either too late or too early. In the winter, after eight in the morning, and before five in the afternoon, is the best time; in the summer, after six or seven, and before seven or eight. Night air is very unwholesome, and often about sun-set it is particularly injurious, on account of a greater quantity of dew falling at that time, than even at midnight. In hot countries, those who wish to prolong their lives cannot too sedulously avoid the night air. In the vicinity of marsh lands, in warm climates,

the evening air also is exceedingly noxious. Both in warm and temperate climes, it is a very mistaken notion to suppose, that it is better to travel late in the evening, or in the night, during the hot weather, than in the day. I shall relate a striking proof of the pernicious effects of such a practice, under the section on sleep.

Infants and young children are peculiarly sensible of the deleterious impressions of confined air. It has been observed, that if they are inured to the outward air, and accustomed to a great simplicity of diet, they are found to be little more sensible to the injuries of the weather than young cattle. All school-rooms and nurseries should be spacious, and well-ventilated throughout the day. Parents ought not to suffer a fire in the nursery when it can possibly be avoided, and whether there be a fire in it or not, it is an excellent practice to have the windows fully open during the greater part of the day. Children are not to be kept warm by fires and close apartments, but by exercise and clothing.

To cover children's faces when they are

asleep, is a very bad custom, for they are thereby deprived of fresh air.

In sickness, a constant supply of fresh air is extremely valuable. Whatever the nature of the complaint may be, and whether of an acute or chronic character, the patient's apartment should be spacious, and, in general, very freely ventilated. In all fevers it is of the first importance, and in protracted chronic maladies will be found a powerful auxiliary to the other means used for the patient's restoration. In its absence, all other cordials often have but a very partial effect.

A valuable discovery has been lately made, in the art of improving the atmosphere of sick chambers, by M. Labarraque, an able chemist, in Paris, and I cannot do better than extract the account of it which is contained in a popular Medical Guide recently published.* As the substances employed by M. Labarraque are of great and extensive use, I shall lay before my readers the whole account.

* See Dr. Graham's *Modern Domestic Medicine*, third edition, page 181 et seq.

"Very lately a most valuable discovery has been made of substances which have greater power in destroying putrid and offensive effluvia arising from animal and vegetable matter, than any means previously known, and these substances being of very extensive use, and capable of being applied with equal facility, economy, and success, I shall make a few observations respecting them in this place. The substances referred to are the chloruret of oxide of sodium, and the chloruret of lime, and to M. Labarraque, an apothecary in Paris, the honour is due of having discovered their inestimable value, and of having freely communicated their composition, and the mode of applying them, to the public authorities of France, for the general benefit of mankind. M. Labarraque's experiments have been of the most public and decisive nature, and have been carried on under the immediate inspection of some of the most scientific and distinguished physicians, surgeons, and chemists, at the *Morgue*,* and in all the great hospitals at Paris; in the extensive workshops where catgut and other strings are manufactured from the intestines of animals, in a state of putrefaction; in the filthy and offensive public sewers, and in the lazaretto at Marseilles; from which it clearly appears, that the chlorurets

* The place where all the dead bodies found in the Seine, or in Paris, or its environs, are deposited for inspection, that they may be claimed or identified previously to interment.

of sodium and of lime possess striking and incontestible advantages over every other means yet employed for the destruction of noxious effluvia, and that they may be used with equal success in destroying the infection of putrid fevers, in purifying the wards of hospitals and sick rooms, in the disinfection of crowded ships and foul stables, in the prevention of putrefaction in bodies previously to interment, in the disinfection of reservoirs of urine, in the purification of putrid water, in short, in the total destruction of every species of infectious effluvia, and offensive odour. It has been also used with excellent effects in correcting the fetid discharges from foul ulcers, cancer, hospital gangrene, carbuncle, &c.

"The council of health of the lazaretto at Marseilles have ordered, that henceforth the above chlorurets should be substituted instead of the acid fumigations, for the purification of those afflicted with plague, or suspected of other infectious diseases, being convinced that they possess much greater efficacy than the latter, are more prompt in their effect, and cause no inconvenience either to the patients or attendants.*

* A corpse in full putrefaction for three days, and exhaling at forty paces around it the most fetid odour, has been instantly disinfected, and all unpleasant smell removed, by the solution of the chloruret of lime. This was under the burning sky of St. Domingo, where putrefaction advances with prodigious rapidity, and is accompanied with the most intolerable stench. I mention it as a striking proof of the inestimable value of these substances.

"Such being the manifest superiority of M. Labarraque's preparations, in arresting the progress of infectious diseases, I proceed to notice particularly the best mode of using them.

"In typhus, putrid sore throat, measles, small-pox, and other infectious fevers, the apartment of the patient is to be freely sprinkled with diluted chloruret of lime, twice a day, or oftener, if the disease be very malignant, or the apartment unusually confined. Sometimes it is advisable also to leave a small quantity, as a pint or two, exposed on a dish or in a bason, in the sick-chamber. And where many persons are living in the same house, or the disease is particularly rife, it may be proper to sprinkle the adjoining apartments and passages with the same liquid.

"Medical men and others, attending patients labouring under contagious diseases, should have a bottle of the diluted liquid always at hand, which they ought to take with them and respire whenever they approach the bedside of the patient, at the same time sprinkling some on the floor, and around the bed.

"To make the diluted chloruret of lime, one part of the concentrated chloruret is to be mixed with thirty parts of water, that is, about half a pound of the concentrated salt to fifteen pints of water.

"Ships which have been impregnated with contagious matter, are to be disinfected in the same manner, viz. by sprinkling their whole interior

with the diluted chloruret of lime, twice or thrice a day.

" To prevent putrefaction in corpses previously to interment, one part of chloruret of lime is to be thoroughly mixed with forty parts of water, and the clear liquid poured off, and with this liquid the entire surface of the body should be freely sprinkled by means of a watering-pot, or in any other convenient manner. This sprinkling should be repeated twice or oftener, daily, according to the temperature, degree of putrefaction, &c. Should putrefaction be far advanced, or the period the corpse is intended to be kept be considerable, it is better to surround the body with a sheet moistened in the solution, and to renew the moistening of it frequently. By these means all putrefactive odour in the apartment may be perfectly obviated.*

" The chloruret of oxide of sodium may be used in the same manner, diluted with water in similar proportions, and with equally good effects.

" It is proper to remark, that in no case ought the use of the chlorurets to supersede strict attention to cleanliness, and a free ventilation of the apartments of the sick.

* The corpse of Louis XVIII. was laid in state, without being closed in a leaden coffin, and freely approached by his people, without their being sensible of any disagreeable odour, at which circumstance many expressed their astonishment. This freedom from putrescency was the result of the application of the chlorurets.

"These chlorurets may always be obtained pure from Mr. Garden, operative chemist, 372, Oxford Street, who will, if required, give instructions as to their dilution with water."

In respect to the relative advantages of town and country, in point of salubrity, the following table will afford correct information. It shows the proportion of people who die annually in great towns, in moderate towns, and in the country.

1. In great towns, from $\frac{1}{19}$ or $\frac{1}{20}$ to $\frac{1}{23}$ or $\frac{1}{24}$.
2. In moderate towns, from $\frac{1}{25}$ to $\frac{1}{28}$.
3. In small villages, and the open country, from $\frac{1}{35}$ or $\frac{1}{40}$ to $\frac{1}{50}$ or $\frac{1}{60}$.

Thus we may with truth affirm, that in London one person in twenty of the whole population dies annually, while in the healthiest villages, and open country, the rate of annual mortality is not more than one in fifty-five or sixty. This is a pretty accurate calculation, and demonstrates the vast superiority which the country possesses in promoting health and longevity.

From these facts we may, I think, fully concur in the truth of the remark, that

large towns are the graves of the human species. Some persons seem disposed to doubt this, and observe that many old people are found in populous cities, and that people in general appear to live long, and in pretty good health, in London, and other large cities, as well as in the country; but the number of aged persons in such situations is comparatively very small, and in judging of the health and strength of their inhabitants, the casual spectator is liable to great deception. Those who investigate the subject closely, readily find a vast and unexpected difference in every respect, and fully equal to what is stated above. In point of health, it is well known that the constitutions of the mass of citizens are weak, irritable, easily susceptible of diseased action, and when labouring under disease, far less able to struggle effectually with it, than those of people living in the country. Every enlightened medical man knows, that if, for example, an apparently strong and robust citizen meets with a severe accident, its course in general is far less regular and favourable

than the same injury occurring to a country resident; in the former, great constitutional irritation usually follows, and frequently convulsions and death; while in the latter, the irritation in the system is commonly inconsiderable, and the termination favourable. The Roman poet, therefore, justly exclaims against

——— Pericula mille
Sævæ urbis.

A striking phenomenon in the economy of nature is, that the vegetation of plants continually counteracts the noxious effects of respiration, combustion, and putrefaction; and in this we see one grand reason why the country is more salubrious than the city. By the latter processes, the vital air of the atmosphere is incessantly consumed, while a noxious gas is generated in its stead; but plants, during their growth, absorb and feed on the noxious vapours, and afford in its place pure vital air. The philosopher Ingenhouz found by experiment, 1st. That most plants have the property of correcting bad air within

a few hours, when they are exposed to the light of the sun; but that, on the contrary, during the night, they corrupt the common air of the atmosphere;* 2nd. That not all the parts of plants, but only the green stalks of leaves, particularly through the sides opposite to the soil, produce the former beneficial effect; 3rd. That the disengagement of pure or vital air does not commence until the sun has been some time above the horizon; that it ceases altogether with the termination of daylight; and that the disadvantage arising from the impure exhalation of plants, during the night, is far exceeded by the great advantage they afford during the day; insomuch, that the impure air, generated by a plant during the whole night, scarcely amounts to a hundredth part of the pure vital air, or oxygen, exhaled from the same plant in two hours of a serene day.

Where villages are well situated, such is their superiority in regard to health, that,

* It will be perceived, that from these experiments we discover one cause why night air is prejudicial to health.

in all cases of accounts, the courts of law in England have determined, that in a given number of persons at two places, namely, a country village or the metropolis, the duration of human life in the village ought to be computed at fifteen, compared to ten and a half in London.

I would remark, as a guide to the weakly and the invalid, that a place of residence calculated for health and longevity, should be, if possible, in a temperate climate;—in a situation moderately elevated;—if in Great Britain, with a southern exposure,—having a command of good soft water,—sheltered by a few trees, but not environed by many trees or woods;—with a dry soil;—in the vicinity of abundant fuel;—with a somewhat moist, rather than a very dry atmosphere;—in an island, rather than on an extensive continent;—and either in a well planned village, or totally in the country.

In regard to the salubrity of different places in this country, about which many invalids are properly much concerned, I would remark, that it must ever depend,

in a great measure, on the complaint under which they labour. The gouty, the dyspeptic, bilious and nervous, &c. generally find an elevated, moderately cold situation the best; while the consumptive, and those subject to cough, absolutely require a very mild atmosphere, and, for the most part, a low situation. In diseases of the chest, situation is of the last importance. In my opinion, the best situation in Europe for consumptive Englishmen is Penzance, in Cornwall.* Those consumptive patients residing in London, who cannot make it convenient to remove into Cornwall, will probably find the air of Wandsworth, Chelsea,† or Brompton, the best, in the immediate vicinity of the metropolis. The lowest parts of the former place appear to me to be particularly eligible. All such persons must studiously avoid Islington, Hampstead, and Brixton. For the scrofulous and the dyspeptic, the air of Malvern is highly desirable.

* My sentiments on this subject are more fully given in the next section.

† It is said, that the gardeners find vegetation, on an average, eight days earlier at Chelsea, than in any other spot in the immediate neighbourhood of London.

A common cold is so frequent a complaint in this kingdom, and is often attended with such serious effects, that, in closing this section, I shall give a few rules for avoiding it. It should be observed, that a cold is generally produced by the individual going from the external cold air, into the warm air of a heated room. When a person, in cold weather, goes into the open air, every time he draws in his breath, the cold air passes through his nostrils and windpipe into the lungs, and, consequently, diminishes the heat of these parts. As long as the person continues in the cold air, he feels no bad effects from it; but as soon as he returns home, he approaches the fire to warm himself, and very often takes some warm and comfortable drink, *to keep out the cold*, as it is said. Now this is the very way to fix a cold in the head and chest, because of the sudden transition effected in the temperature of the parts, by the incautious use of heat. The individual who follows this practice soon perceives a glow within his nostrils and breast, as well as

over the whole surface of the body, which is succeeded by a disagreeable dryness and huskiness felt in the nostrils and breast. By and by a short, dry, tickling cough comes on; he feels a shivering, which makes him draw nearer to the fire, but all to no purpose; the more he tries to heat himself, the more he becomes chilled.

It should, therefore, be a rule with every one, when they come out of a very cold atmosphere, never to go at first into a room that has a fire in it, or if they cannot avoid that, to keep for a considerable time at the utmost distance from it, and, above all, to refrain from taking warm or strong liquors for some time. This rule is founded upon the same principle as the treatment of frost-bitten parts. If they were brought to the fire they would soon mortify, whereas, when they are first rubbed with snow, and brought to their natural heat gradually, no bad consequences follow. Hence, if the following rule were strictly observed, *when the whole body, or any part of it, is chilled, bring it to*

its natural feeling and warmth by degrees, the frequent colds experienced in winter would, in a great measure, be prevented. Those who are much subject to colds are, for the most part, those who are weakly, and to such I would strongly recommend the diligent use of the flesh-brush to the neck and chest, hands and feet, twice a day, combined with much active exercise in the open air. Few indeed are the constitutions that these practices will not harden and fortify.

When you are actually labouring under a cold, dont wrap up in flannel, nor otherwise keep yourself hot, nor drink much hot liquid, for this will inevitably make bad worse. It should be remembered that a cold is a slight fever, and, therefore, the proper treatment is, to indulge a little in a very moderately warm atmosphere, to live low and on food of a moderate temperature, *and to keep the bowels open.* Unless the atmosphere be damp, or the cold particularly oppressive, no one with a cold ought to keep within doors the whole of the day.

SECTION II.

OF EXERCISE.

"The wise, for cure, on exercise depend."

Of all the means of preserving health, exercise is, perhaps, that which has hitherto had the least justice done to it, by the majority of medical writers. Within the last few years, indeed, gymnastic exercises have come into frequent use, and most people are aware of some of the advantages of exercise, but the public at large are still far from having attained to any correct or adequate knowledge of its uncommon power in preserving health, augmenting corporeal strength, improving the mental faculties, assisting in curing disease, and contributing to the prolongation of life.

In regard to health, none of the various processes connected with the important function of digestion could be properly or adequately performed, unless the body

were stimulated for that purpose by labour and exertion. The health of all the parts, and the soundness of their structure, depend on perpetual absorption, and perpetual renovation; and exercise, by promoting at once absorption and secretion, invigorates life, without hurrying it; renovates all the parts and organs, and preserves them apt and fit for every office they have to perform. It also mainly contributes to the proper circulation of the blood, and insures its imbibing the wholesome influences of the atmosphere, which form a principal source of our well being. A brisk circulation animates the whole man; whereas deficient exercise, or continued rest, weakens the circulation, relaxes the muscles, diminishes the vital heat, checks perspiration, injures digestion, sickens the whole frame, and thereby introduces numberless diseases. It should be remembered, that the heart is not of itself sufficient to give the blood due motion;* to accomplish this,

* One mode in which exercise acts in promoting a free circulation, may be recognised from a consideration of the following

muscular movement is likewise requisite. There is not a single part of the human machine, which a sedentary mode of life does not debilitate. How wisely then did the illustrious Cyrus act, when he established it as a rule among the Persians, that they should never eat but after labour.

Addison's description of the human system, is a correct and striking one, although not conveyed in such terms as a modern physician would employ:—

"I consider the body, (says he,) as a system of tubes and glands, or, to use a more rustic phrase, a bundle of pipes and strainers, fitted to one another after so wonderful a manner as to make a proper engine for the soul to work with. This description does not only comprehend the bowels, bones, tendons, veins, nerves, and arteries, but every muscle and every ligature, which is a composition of fibres, that are so many im-

fact:—"In the larger veins, which are so situated as to be subjected to frequent pressure in the different motions of the body, there are valves which allow the blood to pass towards the heart, but not in the opposite direction, by which in our various exercises the rapidity of the circulation, and thus, for the time, our powers are increased." *Philip on the Vital Functions.*

perceptible tubes or pipes interwoven on all sides with invisible glands, or strainers. This general idea of an animal body, without considering it in its niceties of anatomy, lets us see how absolutely necessary exercise is for the right preservation of it. There must be frequent motions and agitations, to mix, digest, and separate the juices contained in it, as well as to clear and cleanse the infinitude of pipes and strainers of which it is composed, and to give their solid parts a more firm and lasting tone."*

Not only is the healthiness of the body thus preserved, but it acquires that strength, which is so essential for enabling it to perform the toils which it must undergo, if we are willing to do our duty, and fulfil the purposes for which we were created. Hence it is, that those persons whose occupations carry them daily abroad into the open air, and impose on them a necessity for active corporeal exertion, are not only the healthiest, but, in general, the strongest individuals in the community. The power of exercise in

* Spectator, No. 115.

augmenting the strength, is illustrated in a striking manner by its effects on those particular parts of the body, which are most used, for they, however weakly before, become, in process of time, thick, strong, and fit to perform the labour required of them. For example, the legs of a runner, the lungs of a singer, and the arms of a waterman, are generally stronger than others, because they have habitually used them for years; the constant and plentiful influx of the blood and spirits into them, makes them more readily admit these supplies, so that the channels of both the vessels and muscles, are become larger and more elastic, and consequently stronger. That exercise, therefore, which is the most universal, will, of course, be preferred, as the most likely to make us strong.

The effects of exercise upon the faculties of the mind, are also of much importance. It keeps the understanding clear, the imagination untroubled, and the spirits in a state fit for the proper and most vigorous exertion of our intellectual

powers. Indeed, since the stomach is cleansed by it, the digestion rendered better, the blood ameliorated, and every animal function improved, the necessary consequences are, that the attention becomes more ready, the perceptions more acute, and all the mental faculties not only brighter and more elevated, but preserved longer in old age. The mind also becomes more courageous, corporeal sufferings are borne with patience, a command of temper, and a presence of mind, are also acquired, and preserved undisturbed, amidst pain and danger.

But by this means, disease may often be prevented, and not unfrequently cured, even when it has taken a very strong hold of the constitution. It has been justly observed, that if only some of the many advantages resulting from exercise, were to be procured by any one medicine, nothing in the world would be in more esteem, or more anxiously sought after; but that we are far too apt to slight the advantages which are to be procured by other means than medicine, when they

cannot be obtained without trouble. Hence exercise, to a sufficient extent, is neglected, though, by attending to it, very many of those disorders, to which mankind in general fall a sacrifice, might, in a great measure, be prevented, or, when formed, cured.

Generally speaking, a sedentary life is the source of all the diseases which physicians call cachectic or chronic, the number of which is considerable. Among these, scrophula, indigestion, bilious and liver complaints, lowness of spirits, nervous irritability, and pulmonary consumption, stand foremost, and there may be added to them jaundice, growing out of the shoulder, and curved spine, palsy, apoplexy, &c. For these, exercise is one of the most effectual, as well as agreeable remedies; it strengthens the vessels, preserves the fluids in a healthy state, quickens the appetite, facilitates the excretions, invigorates the spirits, and excites pleasing sensations throughout the whole system.

When the frame is suffering under

either of these maladies, it is impossible to afford efficient relief by medicine alone. The cordials, volatiles, bracers, and tonics of the apothecary will keep up an increased circulation for a few hours; but their action soon subsides, the stimulus ceases, and they must be repeated and re-repeated during life. The circulation of the blood, indeed, can only be properly carried on, through the medium of exercise or labour. No art can ever come up to nature, in this most salutary of all her operations. That sprightly vigour and alacrity of health, which we feel and enjoy in an active course of life; that zest in appetite, and refreshment after eating, which sated luxury seeks in vain from art, is owing wholly to new blood, made every day from fresh food, prepared and distributed by the joint action of all the parts of the body.

I have just remarked, that exercise facilitates the excretions, and this is a very important advantage. It promotes a regular evacuation of the alvine discharge, increases the quantity of urine, insures

a free and genial perspiration, and thus makes the skin clear, smooth and elastic, and materially assists in cleansing it from even the worst kinds of eruptions. I know a bilious subject who never resorts to active exercise without finding his skin, from being rough and scaly, become immediately soft and smooth, and that after the use of those medicines which have the most remarkable effect in clearing it, have been proved to exert only a partial effect. It is clear that the blood must be not only duly circulated, but be freed from impurities; no medicine will do this, but it will be effected by labour or exercise, under a coarse, and even an unwholesome diet. The old English certainly were intemperate livers, but in those days, if a man or woman was obliged to go a little way, it was on foot; if to a greater distance, it was on horseback; and in both cases there was abundant exercise taken in the open air. The use of the bow and arrow, and the art of wielding the broad sword, and other violent and healthy exercises, were then necessary accomplishments for every

person that ranked as a gentleman. By these airy and masculine exercises, says Dr. Smith, their digestive powers were strengthened, and those acrid humours were dissipated by perspiration, which, when retained in the blood, occasion the gout, and various other disorders.

In general, it may be stated, that a person of middle stature, and in perfect health, will perspire (insensibly) from three to four pounds weight, or more, according to circumstances, within the space of twenty-four hours, under the use of proper exercise, but not else. Indeed, it appears from the experiments of Dr. Robinson and others, that, in a healthy state, a greater portion of excrementitious matter is daily discharged through the skin, (by insensible perspiration,) than by stool and urine combined. Now, when there is a deficiency of exercise, a great part of this matter is retained in the body, and serves no other purpose but to corrupt the nutritious fluids, obstruct its vessels, and oppress the whole man. Well, then, might the poet Armstrong say,—

" While this eternal, this most copious waste
Maintains its wonted measure, all the powers
Of health befriend you, all the wheels of life
With ease and pleasure move: but this restrain'd,
Or more or less, so more or less you feel
The functions labour: from this fatal source
What woes descend, is never to be sung."

As it respects the cure of disease by exercise, many striking facts may easily be brought forward in proof of its efficacy. Cicero is described by Plutarch, as being, at one period of his life, extremely lean and slender, and having such a weakness in his stomach that he could eat but little, and that not till late in the evening. He travelled to Athens, however, for the recovery of his health, where his body was so strengthened by gymnastic exercises, as to become firm and robust; and his voice, which had been harsh, was thoroughly formed, and rendered sweet, full, and sonorous. The same author informs us, that Julius Cæsar was originally of a slender habit of body, had a soft and white skin, was troubled with pains in

the head, and subject to epilepsy; but by continual marches, coarse diet, and frequent lodging in the fields, he struggled against these diseases; and found the exercises and hardships of war, the best medicine against these indispositions.

Nothing can surpass, or even equal, the efficacy of exercise in nervous disorders, and I have long been persuaded, that it is the only thing which can afford much permanent benefit in the majority of cases of this most distressing class of diseases.* That it will perfectly cure the generality of them there can be no doubt, while it will scarcely ever fail to relieve even those

* "There is not any means better adapted than bodily exercise for the cure, as well as prevention, more particularly of what are called nervous diseases. One of the best moderators of too acute feeling, is labour carried to fatigue. A man suffering under a fit of the vapours, will often find that he is able to walk it off. He can be exonerated from the load upon his mind by the violent or continued agitation of his body. I knew a delicate and nervous lady, who, to counteract the influence of domestic vexation, often used to walk ten miles and back again; and I have heard of an eminently successful manager of the insane, who cured his patients by putting them to hard labour. By making them literally work like horses, he brought them to think and feel again like rational beings."

Dr. Reid on Nervous Complaints.

instances, in which the cause originally producing them, still continues to operate. As the labouring classes of the community are seldom afflicted with them, it is natural to suppose that a resolute course of exercise will be an effectual remedy. A gentleman oppressed by nervous disorders, which all the power of medicine could not remove, resolved to try the effects of a long journey *on foot*, for the benefit both of air and exercise, and before the end of his journey his complaints were totally removed. Mr. Abernethy is in the habit of saying, he knows no medicines for nervous complaints, but air and exercise. I have lately met with a London merchant who has related to me a case in which the extraordinary power of exercise in the cure of severe nervous disorder, accompanied with great debility, has been strikingly manifested.

CASE II.

"The subject of this case is also a merchant, who has been ruined by the recent disastrous changes which have taken place in the commercial

world. This gentleman suffered so much under his pecuniary losses, that he lost his appetite, his spirits, and his strength: he could hardly walk a couple of miles without the greatest fatigue, almost every thing he ate or drank disagreed with him, and his spirits were fearfully depressed; in short, he had become a perfect hypochondriac. After suffering in this way for some time, he resolved on going to Spain, and trying there the effects of continued exposure to the air, and long walks from place to place, intending at the same time to look out for mercantile engagements. In pursuing this course, he soon found he gathered strength, and by following it up perseveringly, he came at length to walk ten, fifteen, and twenty miles a day, not only with great ease, but also with perfect relief to all his bodily ailments. He has thereby conquered every symptom of indigestion, and debility, and continues perfectly well, although his destitute circumstances have undergone no favourable alteration."

In my opinion, the chief cause of indigestion, bilious and liver complaints, is a sedentary mode of living, which is now carried to a great extent by all classes of persons in Great Britain, who rise above the lower orders; and, consequently, ex-

ercise and exposure to the air will be found the most certain, speedy, and permanent means of cure. Medicine, of course, will often be very useful in these complaints, as in most others, yet I cannot but consider it as of inferior value when compared to exercise. I know, from a good deal of experience, that no medicine, however valuable, will ever succeed in any severe case without the aid of this means.

I am acquainted with one very bilious subject, in particular, who has proved active exercise to be his most effectual remedy. This gentleman was for several years troubled with much disorder in the digestive organs, and at last with attacks of deficient appetite, general languor, lowness of spirits, head-ache, and vomiting, so frequently repeated as to become not only highly distressing, but alarming. Medicine, judiciously prescribed, often did him a great deal of present good, but it as frequently failed to be of much service, and he now finds himself in a certain way of strengthening his stomach

and nervous system, and thus insuring a hearty appetite, perfect digestion, healthy secretion of bile, in short, a freedom from all his old symptoms, by daily exercise in the open air.* He calls exercise his *stomachic*.

All glandular obstructions are much more frequent now than formerly; this is chiefly owing to inactivity, and therefore exercise will both prevent and cure them. It is well known that scrofula is much influenced by exercise and friction. That very able surgeon Sir Astley Cooper says, "boys will take exercise, and thus are less liable to this complaint, whilst girls are not allowed, and, if pre-disposed to it, are almost always attacked by it."

Again, if we refer to the effects of exer-

* A recent author, distinguished in the profession, observes, "By a systematic exertion of the body, with very spare diet, most cases of indigestion might be completely cured." And he adds, "I would recommend some of my *fair* country-women, who have leisure as well as means, to improve the languid state of their circulation, and the delicacy of their complexions, by a system of exercise in the open air, which will give colour to their cheeks, firmness to their muscles, tone to their nerves, and energy to their minds."

Dr. Johnson on Morbid Sensibility of the Stomach.

cise in consumption, curved spine, and palsy, we shall find them of the most decisive and salutary nature.

Many, who have not examined the subject, would hardly suppose that it could be attended with any great advantage in consumption; but when we consider that this is a disease of debility, that it is in fact simple debility, however induced, which generally paves the way for its attack, and that it is most effectually prevented, in those constitutionally disposed to it, by such means as maintain and augment the general energy of the frame,—we shall readily perceive how extremely valuable exercise is likely to prove in this wide-spreading malady, because it is one of the most powerful methods by which to increase our strength, and to restore all the secretions. Another reason why exercise is attended with such excellent effects in consumption, is from its promoting the healthy functions of the skin, for between the skin and the lungs we know there exists so intimate a consent or sympathy, that when the secretion

from the former is free and copious, the latter organs are always much relieved; whereas when the perspiration is in any degree checked, the lungs have proportionately more work to do, and are, consequently, oppressed and irritated. It is observed, that in training both men and horses, (during which process they take a vast deal of exercise,) scarcely any part of the body improves in its condition more than the skin, which becomes clear, smooth, well-coloured, and elastic.

Constant travelling has often been found of signal service in consumption, and the patients who have derived benefit from such exercise and change, but as yet short of a cure, have uniformly become worse whenever they remained more than a day or two at a place. It is also remarkable, that consumptive persons, who have been reduced to a state of extreme weakness by their disease, can almost always bear travelling for several stages daily, without the least inconvenience, indeed they find themselves the better for it.

The celebrated Sydenham used to re-

commend horse exercise even in confirmed consumption, and asserts that it has often given relief in a manner almost incredible. He says, "Several of my relations have been cured by riding long journies by my advice. How desperate soever a consumption may, or is esteemed to be, yet I solemnly affirm, that riding is as effectual a remedy in this disorder,* as bark

* Some physicians seem to doubt whether consumption, when truly formed, is ever cured, but this is to disregard the evidence of our senses, (which some people are not unwilling to do,) in a matter of fact. In my opinion, they might with as much propriety deny that indigestion, when fully formed, is curable. Notwithstanding the uncommon fatality of consumption, do we not happily see continually cases recover which had been by every one thought desperate, and that after hectic fever was clearly established? Can any man long in extensive practice deny this, without disputing the reality of a matter of fact? I think not. Supposing that ulceration has taken place in the lungs, why should it not heal there, under efficient treatment, as well as elsewhere? No good reason can be given why it should not; and, indeed, we know it may. The following sentiment of Mr. Abernethy on this point, may be acceptable to many of my readers. It is oddly expressed, and embraces only a limited view of the subject, but is, nevertheless, valuable. He says, "Can consumption be cured? bless me, that's a question which a man who had lived in a dissecting room would laugh at: how many people do you examine who have lungs tubercular, which are otherwise sound. What is consumption? It is (ulcerated) tubercle of the lungs; then, if those tubercles were healed, and the lungs otherwise sound, the patient must get better."

Anatomical Lectures.

in ague; provided the patient be careful to have his sheets well aired, and take *sufficiently long* journies. But it must be observed, that such as are past the prime of life, must continue the use of riding much longer than such as are not yet arrived at that age; which I have learned from much experience, that scarcely ever failed me."* But as authentic cases will prove to my readers more instructive and impressive than simple observation, I shall here insert an account of a very bad case of consumption, which was cured by exercise, undertaken at the advice of Dr. Sydenham's Son, who was also a physician.

CASE III.

"The cure I am going to mention, was of gentleman who is related to the Doctor, and is now living in Dorsetshire, who was brought so low by a consumption, that there seemed to be no possibility of a recovery, either by medicine, or exercise; but it being too late for the first to do any good, all that was to be done was to be ex-

* Sydenham's Works, page 446.

pected from the latter, though the Doctor did not think that even riding would then do. However, the poor gentleman seeing there were no other hopes left, was resolved to attempt to ride into the country; but was so extremely far gone, that at his setting out of town, he was forced to be held up on his horse by two porters, and when he got to Brentford or Hounslow, *the people of the inn into which he put, were unwilling to receive him, as thinking he would die there,* and they should have the trouble of a funeral. Notwithstanding, he persisted in his riding by small journies to Exeter; and got so much strength by the way, that though one day his horse, as he was drinking, laid down with him in the water, and he was forced to ride part of the day's journey in that wet condition, yet he sustained no harm by it, but came to the above mentioned place considerably recovered; when thinking he had then gained his point, he neglected to ride any more for some time. But afterwards finding himself relapsing, he remembered the caution which Dr. Sydenham had given him, at his setting out, that if he should be so happy as to begin to recover, he should not leave off riding too soon; for he would infallibly relapse and die, if he did not carry on that measure long enough; so he betook himself to his horse again, and rode till he obtained a perfect recovery."*

* Fuller's Medicina Gymnastica, p. 198.

Fuller relates the case of a physician, a Dr. Baynard, who, by constant riding in the open air, recovered from a consumption, when every body gave him over as lost. And a gentleman, whose son was troubled with pains in his left side, and seemed to be threatened with a consumption, if it had not actually begun, thought that it might be owing to want of exercise, and prevailed on him to try the skipping rope. He continued it for about a twelve-month, when it became no longer necessary, as his health was perfectly re-established, and he was completely cured of all tendency to consumption. Dr. Baynard details his own case in the following terms.

CASE IV.

"My case was, as I and other physicians thought, a true and confirmed *phthisis*; for I had an habitual heat, and continual cough, night and day; a very quick pulse; I spit blood, and exputed a viscous tough matter, sometimes green, yellow, and ash-coloured, and that in great quantity. It would sink in water, and smell ill and

fetid when cast upon live coals. My flesh went off, my stomach decayed, and I had that *livor genarum* as tabid people usually have, night sweats, &c. So that every body gave me over as lost and gone; but through constant and cool regimen in diet, chiefly milk and apples, sometimes with honey and sugar of roses, and a distilled milk, with the temperate and cool pectorals, together with constant riding, night and morning, in the air, and that on the highest hills and places I could find, I thank God, in two months time my hectic abated, cough ceased, flesh came on, and my stomach returned; and by continual riding, and other field-exercises, I recovered to a miracle: and this present year 1705, falling into the same distemper, I was cured by the same means, but chiefly riding. This is very well known, and observed by all who knew me at Bath."

I would not quit the subject of consumption without offering a few remarks on the propriety of the patient's removal to a foreign climate, because I think it my duty to oppose this practice at every possible opportunity, from being perfectly convinced of its inefficiency and danger. In the earlier stages, it is unnecessary, because we have in our own country a

spot which offers at least equal, and every thing considered perhaps superior, advantages; and it is inefficient, since change of climate will not be attended with much benefit without constant exercise. In the latter periods, it is dangerous, as experience has fully proved that, under such a change, this disease then runs a more rapid, and a more certainly fatal course, than if the patient had remained in England. This is, in short, the sum of medical experience on the subject; and I have no doubt that a great majority of the most able physicians in this kingdom, will, on due consideration, fully agree in the truth of this statement. It is a most mistaken notion to suppose, that the inhabitants of Madeira, Italy, the south of France, or Lisbon,* are nearly exempt

* I cannot consistently enlarge here on this subject, but my readers should know, that the physicians of Italy and France acknowledge, that in a hundred deaths among the native inhabitants, there are twenty-five, at the least, by pulmonary consumption; and that all the English physicians who have long practised in Madeira or Lisbon, dissuade us from sending patients thither.

In respect to the propriety of sending consumptive patients to Madeira, I would state a fact recorded by Dr. Renton, a

from consumptive disorders; on the contrary, they are very liable to them, and it is a remarkable circumstance, that the duration of the disease, in those countries, does not exceed, in general, from three to six months, especially in Italy. I have said above, that we have a spot in our own country superior to any foreign station, this is Penzance, the temperature of which is exceedingly mild and equable; and I most earnestly recommend my consumptive readers, and more particularly my fair country-women who suffer under that disease, never to listen to any recommendation that would lead them from their native shores, but to trust to Penzance air, exercise, and travelling, (with suitable medical treatment,) for the cure of their malady. These, I am persuaded, will often succeed, and if they do not,

physician who resided there. He says, that of forty-seven of such patients sent to that island, thirty-two died within six months after their arrival; six died on a second winter's trial of the climate; six died after returning to England, and the fate of the remaining three was uncertain! The experience of Dr. Heineker, (another physician who practised in Madeira,) in nearly a similar number of cases, was equally melancholy.

nothing will. Numbers of consumptive invalids, in the more respectable classes of society, annually fall victims to the removal to a foreign climate, who would have been saved by remaining at home, and resorting to the means just advised.

Curvature of the spine, and growing out of the shoulder, are complaints which have very much increased of late years. We rarely meet with them among boys or young men, but they are frequent among girls and young women, especially in the more respectable and higher classes of society; and the most able of the profession universally agree, that debility is their chief cause, and exercise their only remedy.

A lateral curvature of the spine is, indeed, now become so common, as to prove a source of alarm to almost every respectable family where there are several daughters, and a cause of much anxiety and distress to many parents, at which we cannot be surprised, for distortion is a most serious evil to a young lady. That this complaint is, in a very great majority

of instances, caused by deficient exercise, is proved by several circumstances, and especially by the fact, that we very seldom meet with it among the children of the poor, and that among the more respectable classes of society, it is almost entirely confined to the girls.* Parents are, of course, anxious to know, what can be the cause of this malady becoming so frequent,—we answer, it lies in the palpable and radical defects of the modern system of physical education. The celebrated John Hunter used to say, twenty years ago, that children were made crooked by the means taken to keep them straight; and so it is. In these cases, the subject of prevention is one of considerable moment to every respectable family, because it is far more easy to prevent these evils than to cure them, and, therefore, I would observe, that the pre-

* "For fifty young ladies who become twisted between th ages of eight and fourteen, there is not more than one *poor* girl similarly affected. And for one hundred young ladies, who are twisted, there is not one young gentleman."

Shaw on Treatment of Spinal Distortions, p. 2.

ventive means are plenty of pure air, active exercise, early rising, nourishing food, and a proper regulation of the bowels. Back-boards, stiff stays, and other means frequently employed to preserve and improve the shape, are worse than useless, and ought never to be used.* When girls are weakly, care should be taken not to fatigue them in any sedentary employment, in which they may be engaged, as in standing in classes during examination, sitting at the piano, &c.; and they ought not to be kept in school more than for a very moderate period, at each time. It would be far better both for teachers and pupils, if the period of instruction never extended beyond two hours at one time. Above all, active exercise in the open air is essential, to preserve the muscles and bones in that state of strength and vigour, which is the

* "Stays, you know, are good things to let a person slip aside, without that slipping being seen; and that went so far, that I remember the time when it was a *bet*, that upon an examination, in an assembly of well brought up girls, you would not find one girl among them straight." *Abernethy's Lectures.*

most effectual safe-guard against personal deformity of this description; for it must be evident to all, that if the bones possess due consolidation and firmness, and the muscles proper strength, the individual will grow up in a natural manner, and there will be no inclination of the body to either side; but if, on the contrary, the bones become soft, and the muscles debilitated, there will inevitably follow an undue inclination to that side which is the weakest, or to which the girl feels most disposed to yield, in order to gain the greatest ease. This inclination in the beginning, is, of course, partial and slight, but in the growth of the patient, it soon becomes fixed, permanent, and often very considerable, and thus a marked deformity takes place. Parents should know and consider, that under a deficiency of exercise, the bones, especially of children, invariably become soft and yielding, and that in endeavouring to impart solidity and strength to them, nothing can supply the place of exercise

in the open air.* It is well known that the bones of a race horse *during training*, and those of a healthy labourer, pursuing his ordinary work, are as hard as ivory; but if either the animal or the man are much confined within doors, and deprived of proper exercise, their bones readily become soft.

In regard to the cure of these affections, I believe it to be fully ascertained, that regulated exercise in the open air is the grand means of recovery, and I have no doubt it will perfectly cure the most frightful spinal distortions, even after severe cough, emaciation, and excessive weakness, have been induced by the continuance of the disease. Much will unquestionably depend on the proper regulation of the exercise, and many surgeons have appeared to me to fail of success in the treatment of lateral curvature, because the exercise employed was not

* "I remember Mr. Hunter saying, you should dress your children lightly and loosely, let them run about, and exercise all their muscles equally, and then they will not grow awry."
Abernethy's Lectures.

sufficient. It should never be of a violent kind, but gentle at first, afterwards free and active, being carried on for at least four hours a day, at proper intervals, and as much as possible in the open air. Nourishing food, cheerful society, and regulation of the bowels, with rest on a hard mattress when the individual is not exercising, must also be afforded. As a proof of the great value of exercise in the cure of the present malady, I have transcribed the following case from Capt. Clias's observations on gymnastic exercises:—

CASE V.

"Miss A. B., aged sixteen years, had been affected for several years with a distortion of the spine, from the right to the left side, with general weakness, particularly of the arms and chest; she was extremely pale and thin; her sleep much disturbed, and her appetite nearly gone. She had an obstinate cough; her voice was weak, and nearly inaudible. She had a continued pain in the left side, resulting from the pressure of stays, which she had worn for some months with the expectation of re-establishing the straight position

of her back. Her head reclined upon her chest; and what are called the false ribs on the left side were bent one over the other, and forced inwards. In this condition the young lady was confided to my care, on the 22d of October, by a physician who had seen and visited her for some years. I may be allowed to say, that it was almost with repugnance that I engaged to employ my system of exercise in the case of a person who appeared to be nearly in a dying condition, but the entreaties of the relations, and the solicitations of the medical attendant, were so urgent, that I could not forbear making the trial. The table of exercises which I employed in this case, will give a just idea, to those persons who interest themselves in this practice, how far I deserved the confidence reposed in me.

Table of the Gymnastic Exercises resorted to in this case, by which the reader will perceive the slow but gradual manner in which patients, in such cases, proceed from slight exercises to those which require greater strength and exertion.

"1. To make prolonged inspirations, sitting. 2. Prolonged inspirations, the patient standing, the arms fixed. 3. The same exercise, the arms hanging down. 4. The same, the arms extended

horizontally. 5. The same, the arms fixed to a horizontal pole. 6. Deep inspiration, and counting a number without drawing the breath. 7. Movement of the feet on the ground, the patient sitting. 8. Deep inspiration, the patient lying on the left side, and leaning on the elbow. 9. In the same position to raise and to lower the body. 10. Walking slowly, and making deep inspirations. 11. Walking a little faster, and counting several steps without drawing breath. 12. Bending without rising, the weak hand fixed above. 13. Beating time, with both hands fixed to the horizontal pole. 14. 15. Beating time, bearing a weight in the weak hand. 16. 17. Lifting up a small box from the ground with both hands, and then with the weak hand. 18. 19. 20. To declaim without moving, and to sing without drawing breath. 21. 22. 23. 24. Movements of balance simple, in front and on one side. 25. 26. 27. 28. Develop other motions of the arms, and to imitate the motion of sawing. 29. 30. These exercises with the weak hand only. 31. 32. To draw upon a spring with the weak hand only, and then with the arms and body fixed. 33. Seated on the ground, to rise with the assistance of the arms, the feet fixed. 34. Lying down horizontally, to raise the body without the assistance of the arms. Other exertions of a similar kind, which it is not necessary to describe, follow these.

"On the 27th of November, the cough having entirely ceased, and the progress of the patient giving me reason to expect the happiest results, I began to employ friction, during the exercise, on the diseased parts. At this time, I also took with her the first promenade, the weak arm supported, and afterwards in a carriage. On the 12th of January, she was so much recovered, that she could without inconvenience resume her lessons in singing, playing, and drawing, and walk several miles without fatigue. The cough and pain in the side had entirely ceased; she had an appearance of health, and her spirits were good. All the animal functions were perfectly restored."

I cannot but enter my protest in this place against the employment of instruments in lateral curvature of the spine. Chesher's Collar, Callam's Back, and other similar instruments, are worse than trash, because they serve to amuse the minds of patients, till, after experiencing their worthlessness, it is often too late to resort to better means. Independently of this, they too commonly prevent the individual who wears them from taking proper

exercise, which is alone an insuperable objection to their use. In short, these wretched expedients, like the windlasses, and other complicated instruments, used in France with the same views, serve no better purpose than to *pay* the maker. Mr. Chesher's instruments have been in much repute, but the more I examine the subject, the more fully am I convinced, that the benefit said to be derived from them has not been real, but only apparent and deceptive. Indeed, if the real cause of lateral curvature is debility, which I presume cannot consistently be denied, it is utterly impossible that such instruments can be of any service whatever. Such being the nature of the distortion, the treatment by "gibbeting," as Mr. Abernethy properly calls it, is evidently repugnant to every principle of rational practice. This distinguished surgeon observes, "I cannot say I like this system at all."—"It is a most horrible annoyance to the patient, and is productive of thickenings, ulcerations, and deformities under the chin."

The practice of laying patients down constantly on the back is another vile plan, apparently still resorted to by some medical men. I am happy to find that Sir Astley Cooper* and Mr. Abernethy, most decidedly object to this method of treatment. There is now a physician in London, who, forsooth, confines his ill-fated patients on their backs, and stretches and pummels their spine, with the view to reduce a dislocated bone there, to which dislocation he says this lateral curvature is owing! It is my object to expose measures, not men, but, in truth, an honest man can scarcely refrain from expressing his indignation, in plain terms, against the physician who can continue, in the present enlightened times, to pursue so barbarous and so injurious a treatment.

* "This is a plan which I by no means advise, for exercise is absolutely necessary to the health of children."—"I have known children laid down for a length of time, to the great injury of their general health, without producing any effect on the distortion. A lady, of uncommon talent and resolution, lay for twelve months in the recumbent posture, and rose with her spine in the same state, but with an additional disease in the bladde . This was followed by a disease of the womb, which proved fatal." *Sir Astley Cooper's Lectures*, No. 68.

His patients may, indeed, be styled ill-fated, for if they place confidence in him long, they can hardly fail to be crooked for life.

There are few diseases in which exercise, united with temperance, will produce more wonderful effects than in gout. The celebrated Dr. Cullen used to say, that they are, in most instances, a certain remedy for this cruel disorder; and Sydenham, who is justly styled the modern Hippocrates, affirms, that nothing so effectually prevents the indigestion of the humours, (which he considers to be the principal cause of the gout,) and consequently strengthens so much the fluids and solids, as exercise.* But as there is more necessity for making a thorough change in the constitution in gout, than in most other chronic diseases, so exer-

* "It is upon exercise, associated with regularity and moderation of living, and not upon any of the artifices or felicities of pharmaceutical composition, that the gouty is to depend principally for a defence against the inroads of his painful and fearful malady."

"Tollere nodosam nescit medicina podagram."

Dr. Reid on Low Spirits.

cise, unless it be used daily, will do no service, and perhaps may do mischief, by causing a fit, if resorted to after it has been abandoned for a considerable space of time. Indeed, if exercise be omitted, all the remedies which have hitherto been discovered, will be of little avail. Sydenham considered riding on horseback as the best sort of exercise; and, indeed, so advantageous in the gout, and other chronic diseases, that if any person, he observes, were master of so effectual a remedy, and possessed, at the same time, the means of concealing it, he might easily raise a considerable fortune. In my opinion, long walks should be taken as well as long rides, by all gouty people, who are not advanced in years.* The following case exemplifies the beneficial influence of exercise in the cure of gout. It illustrates what I mean by *sufficient*

* "The man who wishes to preserve himself from gout, must take bodily exercise. He must find out that kind of exercise which agrees with him, and checks his complaint; and to this he must deliver himself up without reserve, fearing only one thing—that of exercising too little."

Dr. Johnson on Gout, p. 100.

active exercise. It is only now and then we meet with an invalid who takes *enough* exercise to cure his complaint, whatever that may be. A little of it is always found beneficial, but it requires invariably a great deal, perfectly to overcome a severe and fixed disease:—

CASE VI.

A young man, at the age of twenty-five years, was of a most enormous corpulence of body. He was an only son, and very rich. He experienced an attack of gout, which frightened him so much, that he entered on the following regime of exercise. On Mondays, he played at tennis, for three or four hours in the forenoon; on Tuesdays, he devoted the same space to mall; on Wednesdays, he hunted; on Thursdays, he rode; on Fridays, he exercised at arms; on Saturdays, he walked to one of his country seats, three French leagues distant; and on Sundays, returned on foot again. The remedy proved so successful, that at the end of eighteen months he was reduced to common dimensions. He married; and, continuing his exercises, got rid of all the humours with which he had been gorged. From a mis-shapen mass, he became a

well-made and vigorous man, exempt from gout, and enjoying perfect health.*

I ought not to omit to remark here, that exercise, particularly by riding on horseback, and friction, is of essential service in chronic disease fixed in the abdomen, whether occurring in the mesenteric glands, or intestines; and I am persuaded, that many cases of this description are lost for want of this most salutary aid to the power of appropriate medicine. Of this class of maladies, are tumefaction of the mesenteric glands, severe protracted looseness of a chronic kind, frequent tormenting colic pains, &c.† The excellent effects of riding in the cure of obstinate looseness, is exemplified in the following striking case.

* Guilbert on Gout, p. 101.

† I can very confidently recommend one of the pills, No. 3, (see the end of the volume,) taken every night, as a most appropriate and powerful auxiliary to horse exercise and friction in curing these internal diseases. Sometimes a quarter of a pint or more of compound decoction of sarsaparilla may likewise be taken, twice a day, in addition to the pill, with increased advantage.

CASE VII.

"A clergyman, with whom I am acquainted, living in the country, happened some years ago to fall into a lingering diarrhœa, which hung upon him for some years, and eluded the force of the best medicines of all sorts, and brought him so low, that he had no hopes of recovery left. When he was in this condition, a physician of the city advised him to try what riding on horseback would do; not a slight trial or two, but a close application to it; and his physician told me himself, that he charged him to keep to a brisk motion, enjoining withal a very strict diet, that if the disease should be checked by the exercise, it might not by any improper food, have occasion to break out again. He set upon this course in his own grounds, which are very large and spacious, and by these means was restored to perfect health again."*

Sydenham speaks in the highest terms of the efficacy of exercise in bilious colic, and other complaints depending on abdominal obstruction. After describing the proper medicinal treatment of this pro-

* Fuller's Medicina Gymnastica, p. 189.

tracted colic, he proceeds, "But if it should return upon omitting the opiate, as it sometimes happens, I have hitherto discovered nothing that will so certainly promote the cure, as taking long journeys on horseback, or in a coach, observing in the mean while to give an opiate every morning and evening. For by this kind of exercise the morbific matter is brought to the surface of the body, and the blood, broken and divided by the continual motion, does, as it were, undergo a new depuration, and at length the bowels are greatly strengthened and refreshed by this way of rousing the natural heat. Nor do I think it beneath me to own, that I have frequently cured this disease by this exercise, when all other means had failed me."*

* The celebrated Dr. Huxham strongly recommended horse exercise for the cure of this malady. "Nothing, (says he,) strengthens the *viscera* and intestines more than riding on horseback, for by the very different and frequent agitations of the body which this exercise occasions, it gently shakes all the parts of the lower belly, and by this means drives out all viscidities contained in the bowels and blood vessels, and eminently promotes the circulation of the blood through the mesenteric vessels, and the ramifications of the great vein of the liver, where it circulates slowest. Moreover, it appears by

In continuing his remarks on the cure of this affection, this illustrious physician details a successful case, which I consider worthy of record here, both on account of its proving the value of the means employed, and exhibiting the amiable conduct of the narrator.

CASE VIII.

"During these years, one of my poor neighbours, yet living, was seized with a most violent bilious colic, which he had long endeavoured ineffectually to relieve by cathartics, glysters, and swallowing leaden bullets. I had recourse here to the frequent use of opiates, nor did they prove unsuccessful, for he remained tolerably easy whilst he was taking them. But perceiving they only palliated, and did not eradicate his disorder, for it returned immediately after the effect of the opiate was gone off, I had compassion on the man, labouring under low cir-

numerous experiments, that perspiration is much increased by riding; whence it proves serviceable not only in this, but in most chronic diseases, by driving the noxious humours to another part, and expelling them by the pores. In reality, riding only has cured where tedious courses of medicine have failed; when, therefore, the patient can sit a horse, let him ride every day." *Huxham De Morb. Colic.* page 28.

cumstances, and a violent disease, and lent him a horse to ride a long journey as above directed; and after riding a few days, his bowels became so strong as to be able to expel the remains of the disease, and he recovered perfectly by this means without the assistance of opiates."*

It would occupy too large a portion of this small work for me to describe all the uses of exercise in the relief and cure of diseases; but I would observe, in concluding this part of the subject, that its beneficial effects in chronic rheumatism also are fully proved, at which we cannot be surprised, when we consider, that it has a manifest power in improving the general health, and promoting a free perspiration, and thus removing two of the principal causes of this disorder. Dr. Marcet relates, that a gentleman, after every other means had been tried in vain for the cure of an obstinate *sciatica*, resolved to try the effects of *sweating walks*. For that purpose, he got stockings, drawers, and shirts of fleecy hosiery, and

* Sydenham's Works, page 192.

applied eight thicknesses of flannel to the chief seat of the disorder, beside warm pantaloons, and a great coat. The walk he took, thus equipped, was from one to two miles, according to the state of the weather. The consequence was a profuse perspiration. When he returned home, he had a couple of changes of well aired flannel, and then lay down upon a bed not warmed. He is convinced that exercise is greatly preferable to heated air, or hot water. His complaint was completely cured; his appetite increased; his general health improved; and he became less sensible of cold, or variation of temperature.

Having now, I trust, satisfactorily demonstrated the importance and utility of exercise in the preservation of health, and the prevention and cure of disease, and brought forward such facts as will induce my readers to resort to, and persevere in, the daily use of this most efficient and agreeable method of securing health and long life, I shall advert to the different inds and quantity of exercise, first tran-

scribing a pleasant story in point, from Voltaire:—" Ogul, (says Voltaire,) a voluptuary who could be managed with difficulty by his physician, on finding himself extremely ill from indolence and intemperance, requested advice:—' Eat a Basilisk stewed in rose-water,' replied the physician. In vain did the slaves search for a *Basilisk*, until they met with Zadig, who, approaching Ogul, exclaimed, ' Behold that which thou desirest;' ' but my Lord,' continued he, ' it is not to be eaten; all its virtues must enter through thy pores, I have, therefore, enclosed it in a little ball, blown up, and covered with a fine skin; thou must strike this ball with all thy might, and I must strike it back again, for a considerable time, and by observing this regimen, and taking no other drink than rose-water for a few days, thou wilt see and acknowledge the effect of my art.' The first day Ogul was out of breath, and thought he should have died from fatigue; the second he was less fatigued, and slept better: in eight days he recovered all his strength.

Zadig then said to him, ‘ There is no such thing in nature as a Basilisk! but *thou hast taken exercise and been temperate, and hast, therefore, recovered thy health.*”

OF THE VARIOUS SORTS OF EXERCISE.

Exercise is of various kinds, but I shall confine myself to a consideration of those which are the most useful, and the most readily employed, the principal of which are *gymnastic exercises, walking, riding, gestation, and friction.*

Gymnastic exercises were originally considered in a military point of view alone; but philosophers and physicians soon perceived, how conducive they were to health and strength; how many ailments vanished in the midst of those various and complicated movements which they rendered necessary, and what energy these motions imparted to the most important functions of the body. They observed, that even convalescents, by adjusting the use of these exercises to their respective degrees of strength, recovered expeditiously even

from a long and painful train of maladies. Hence, the gymnastic art became an object of public attention, as an important branch in the education of youth, and as materially contributing to the preservation and to the perfection of the human race.

Herodicus, who instructed Hippocrates himself in the art of physic, being master, we are told, of one of the *Grecian palæstræ*, or *gymnasia*, observed that the youths under his care, who took their proper exercises, were in general very healthy and strong; he thence began to attribute it to their constant exercising. Indulging this thought, he began to establish these exercises as a means of preserving or recovering health, and formed certain rules for that purpose, which have been lost for many ages. They were once, however, in great esteem; and Herodicus is to be accounted, if not the inventor, at least the first great improver of so useful an art.

The ancients, in general, had so high an opinion of gymnastics, that Plato and Aristotle, and other great authorities,

considered a commonwealth as defective, in which they were neglected; and they reasoned thus: As the improvement of the *mind*, which ought to be our constant aim, cannot be accomplished without the aid of the *body*, is it not incumbent on us to promote the health and strength of the body, that it may be capable of serving the mind, and of assisting, instead of impeding, its operations? Hence, Plato, in Protagoras, calls him a *cripple*, who, cultivating his mind alone, suffered his body to languish through inactivity and sloth.

The most useful gymnastic exercises are leaping, throwing the discus, or quoit, playing with the foot-ball, and fencing.

Leaping ranks among the first of the gymnastic exercises; it strengthens, and gives elasticity to the feet, legs, knees, thighs, and indeed the whole frame; it braces every muscle, invigorates the courage, improves the faculty of measuring distances by the eye, and gradually imparts such a command over the balance of the body, as tends greatly to secure us

from all hazards of dangerous falls. The exercise of leaping among the ancients, was confined to distance, but in modern times it has extended also to height. One Ireland, a native of Yorkshire, in the eighteenth year of his age, by a fair spring, without any assistance, trick, or deception, leaped over nine horses, standing side by side, and a man seated on the middle horse! He also jumped over a garter, held fourteen feet high; and at another jump, he kicked a bladder, hanging at least sixteen feet from the ground.* This is a convincing proof what amazing agility and strength constant exercise will impart.

Throwing the discus, or quoit, was one of the principal gymnastic exercises practised among the ancients, and it is to be regretted that it has almost grown into entire disuse in our day, at least among gentlemen. It is well calculated to expand the chest, strengthen the back and arms, and to exercise effectually the whole of the superior portion of the body. The

* Strutt's Plays and Pastimes, page 176.

foot-ball is likewise a pastime worthy of attention, and may with great advantage be resorted to alternately with the throwing the discus, for as the latter exercises the superior extremities, the former gives energy and activity to the lower limbs.

There is scarcely any gymnastic exercise, with a view to health, better entitled to the attention of those who are placed among the higher classes of society, than that of fencing. The positions of the body in fencing have, for their objects, erectness, firmness, and balance; and in practising that art, the chest, neck, and shoulders, are placed in positions most beneficial to health. The various motions, also, of the arms and limbs, whilst the body maintains its erect position, enable the muscles in general to acquire both strength and tone; and in young people, the bones of the chest or thorax necessarily become more enlarged, by means of which a consumptive tendency may be avoided. Various instances may be adduced, where fencing has prevented consumptions, and other disorders. It has

been remarked also, that those who practise this art are, in general, remarkable for long life, and for the good health they enjoy. The celebrated Locke used to recommend fencing as a good exercise for health, in the strongest terms.

Walking. There is no exercise so natural to us, or in every respect so conducive to health, as walking. It is the most perfect in which the human body can be employed; for by it every limb is put in motion, and the circulation of the blood is effectually carried on, throughout the minutest veins and arteries of the system. Both the body and the mind are enlivened by walking; and even when carried to an extreme, it has often been found highly serviceable in nervous diseases. This salutary and most excellent exercise is in the power of every body having the use of their limbs, and can be adapted, in degree and duration, to the various circumstances and wishes of each individual.

Walking is of two kinds, either on plain ground, or where there are ascents. The latter is in every respect greatly preferable,

as by it the lungs are exercised, and the ascent and descent agitates the body, unless it be in a weak state, with a useful variety. Walking against a high wind is very severe exercise, and not to be recommended.

As, from various circumstances, persons residing in large towns, and engaged in sedentary occupations, cannot take all that exercise abroad, that may be necessary for their health, they ought, as much as possible, to accustom themselves to be walking about, even in their own houses, instead of sitting so much at desks and tables, as is usually the case. This rule is peculiarly necessary to be attended to by literary men; and though such practice does not make up for the want of exercise abroad, yet it is the best substitute for it.

It was an old rule, "*after dinner to set a while, and after supper to walk a mile;*" but that adage is not consistent with the hours kept in modern times. When supper, however, was very early, those who resided in the country might have the advantage of walking two or three miles

previous to their going to bed. It is said, that such a walk brought on a gentle breathing sweat, which was favorable to repose; and that next morning, they awoke with a clear head, and found refreshment from their sleep, of which the indolent have no idea.

The following rules are recommended to the attention of those who are attached to this excellent species of exercise. 1. The most proper walk, for health, is in a pure and dry air, and in rather an elevated situation, avoiding marshy and damp plains. 2. In the summer season, the walk to be taken morning and evening, but by no means during the middle of the day, unless guarded from the oppressive heat of the sun, under the shade of woods or forests; in winter, the best period of the day is usually after breakfast, or from ten to one. 3. It is advisable, occasionally to change the place where you walk, for the same place, constantly gone over, may excite as many disagreeable and painful sensations as the closet or the study. 4. We ought to accustom ourselves to a

steady and regular, but not to a very quick pace; in setting out, it should be rather slower than what we afterwards indulge in. 5. An agreeable companion contributes much to serenity of mind; but unless the mode of walk is similar, as well as the taste and character congenial, it is better to walk alone; as either the one or the other of the two companions must be subjected to some constraint. 6. To read during a walk is an improper action, highly detrimental to the eyes, and destroys almost all the good effects that can be derived from the exercise.

The celebrated Captain Barclay's *style of walking* is to bend forward the body, and to throw its weight on the knees. His step is short, and his feet are raised only a few inches from the ground. Any person who will try this plan, will find that his pace will be quickened, at the same time he will walk with more ease to himself, and be better able to endure the fatigue of a long journey, than by walking in a position perfectly erect, which throws too much of the weight of the body on

the ankle-joints. He always uses thick-soled shoes, and lamb's wool stockings. It is a good rule to shift the stockings frequently during the performance of a long distance; but it is indispensably requisite to have shoes with thick soles, and so large, that all unnecessary pressure on the feet may be avoided.*

Riding on horseback has been justly celebrated as a very useful sort of exercise, more especially to invalids. In general, it may be laid down as a rule, sanctioned by experience, that *riding is the best exercise for regaining health, and walking for retaining it.*† Riding certainly strengthens,

* *Pedestrianism*, page 208.

† Dr. Paris, (in his Observations on Diet,) seems to doubt the propriety of this rule, but without advancing any reason for his objection. I believe it to be fully sanctioned by correct experience, and the reason why riding on horseback is better adapted to the feeble than walking, appears to be because they are thereby enabled to take much more exercise, both in point of quantity and activity, than they can possibly do in walking. Another source of its superiority under a state of feebleness is, that it effectually exercises the abdominal viscera, and, therefore, powerfully assists the stomach and bowels to recover their wonted healthy tone and action, the integrity of which is so pre-eminently essential to the well-being of the whole frame. Consequently, the following remarks of Dr. Reid appear to me well

in a most effectual manner, the stomach and intestines; and to the hypochondriac, and those whose spirits are broken down by grief, it is an inestimable remedy. It is less tiresome and laborious to the inferior limbs than walking, so that persons in a weak state of health can use it with less pain or difficulty; at the same time, it must be admitted, that the legs and feet are apt to get stiff and cold by riding, unless some exercise on foot be afterwards taken, which should always be done when practicable. For those in tolerable health, riding is best adapted for the summer, and walking for the winter. To those whose business or pursuit does not permit them to devote much of their time to exercise,

founded. "Walking is no doubt best adapted to a state of unblemished health or unimpaired vigour; but for the feeble and hypochondriacal, or those who are affected by any visceral obstruction or disease, riding on horseback is, for the most part, preferable to any other kind of exercise. Horse-exercise is particularly calculated to remove the obstructions, and to brace the relaxed energies of the frame. I have frequently seen instances of broken-up spirits, and apparently ruined constitutions, in which an altogether unexpected restoration to strength and cheerfulness has been effected by horse-exercise, when almost every other method of recovery had been tried without any sensible advantage."

riding is certainly preferable, more especially in cities, as on horseback they are at once brought out into the fresh air, and the body is so thoroughly agitated, that it does not require to be so long continued as some other exercises; an hour and a half, in general, being sufficient.

It has been correctly remarked, that those who design to make riding turn to account, must make it a pleasure, and must find out a horse that entirely suits their humour, and then it will not be easy for them not to delight in a creature which will readily perform all they expect from him. Among the numerous cases of severe disorder cured by riding, which might be brought forward here, I have selected the following for the reader's consideration, and, I hope, instruction. It is the case of Dr. Ward, then Bishop of Salisbury, and is from the pen of the celebrated Sydenham.

CASE IX.

"One of our prelates, (says Sydenham,) a man eminent for wisdom and learning, after that he

had for a long time given himself intemperately to his studies, and with the whole stress of his mind, which in him is very great, applied himself too much to close thinking, fell at length into the hypochondriacal distemper, which continuing a good while, all the ferments of his body were vitiated, and all the digestions quite subverted. He had more than once gone through the chalybeate course; he had tried almost all the mineral waters, as likewise antiscorbutics of all kinds, and testaceous powders, in order to the sweetening of his blood. Thus, what with the disease, and what with the cure, continued for so many years together, being nearly destroyed, he was seized with the colliquative diarrhœa, which, in the consumption, and other chronical distempers, when all the digestions are quite spoiled, is wont to be the forerunner of death: when he at length consulted me, I presently considered that there was no more place left for medicines, since he had taken so many and so efficacious, to so little purpose, and therefore advised him, for the reasons above-mentioned, to commit himself wholly to riding for a cure, beginning first with small stages, such as were most suitable with so weak a condition. I desired him to persist daily in that practice, till in his own opinion he was very well, increasing his stages gradually every day till he should come to ride as many miles in a day, as more prudent and moderate travellers

usually do, when upon account of their affairs they set out on a long journey: that he should not be solicitous, as to what he ate or drank, or have any regard to the weather; but that he should, like a traveller, take up with whatsoever he met with. To be short; he set upon this course, gradually augmenting the distance of his ridings, till at length he came to ride twenty, nay, thirty miles a day; and as soon he perceived himself better after a few days trial, he was animated with the wonderfulness of the event, and persevered in the same course for some months; in which space of time he rode several thousand miles, as he told me himself, until he was not only well, but had acquired a strong and robust habit of body."

Gestation. Conveyance in close carriages is rather an elegant piece of luxury than a mode of healthful exercise. If an invalid is so extremely weak as to be incapable of taking any other exercise, he had better use this than none, but it is one that can never with propriety be recommended under any other circumstances.* One or

* Dr. Franklin has some pertinent remarks on this subject. "We abound, (says he,) in absurdity and inconsistency. Thus, though it is generally agreed, that *taking the air* is a good thing, yet what caution against air! What stopping of crevices!

two of the windows ought always to be kept open. It has been truly said, lolling in a close carriage, unless a person be too weak to bear any other motion, only serves to destroy the benefit of a more effectual, and even more pleasant exercise of the limbs.

Using an open carriage is a more healthy practice, and in sultry weather is one that may prove desirable for invalids. It is highly advisable for people of rank and fashion to accustom themselves to the constant use of an open carriage, by which they could not fail to promote their health, and increase their strength, and be thus rendered much less susceptible to variations in the weather.*

What wrapping up in warm clothes! What shutting of doors and windows, even in the midst of summer! Many London families go out once a day to take the air, three or four persons in a coach, or perhaps six; these go three or four miles, or as many turns in Hyde Park, with the glasses both up, all breathing over and over again the same air they brought out of town with them in the coach, with the least change possible, and rendered worse and worse every moment; and this they call *taking the air!*"

* Lord Monboddo, the author of *Ancient Metaphysics*, never would enter a carriage even in the severest weather, since he

Friction. There is no subject to which it is more necessary to call the attention of every individual, desirous of preserving health, or attaining longevity, than to the advantages of friction. The ancients placed so high a value on it, that they scarcely passed a day without it; whereas the moderns pay but little attention to that useful practice. Yet how many there are, who keep a number of grooms to curry their horses, *who would add ten years and upwards to their own comfortable existence*, if they would employ but one of them to curry themselves with a flesh-brush, night and morning. Almost every body knows what well currying will do to horses, in making them sleek and gay, lively and active, insomuch that it is equivalent to half their food. This it can no otherwise effect, than by aiding the circulation, and assisting nature to throw off, by perspira-

looked upon it as an unjustifiable effeminacy. He annually rode from Edinburgh to London, and took other long journies on horseback, and was also remarkable for his attachment to friction, and other modes of exercise. He died at the age of ninety, and long after seventy found himself as hale, and, in many respects, as vigorous, as he had been at thirty or forty.

tion, the recrements, or grosser parts of the juices, which stop the full and free circulation.

Precisely the same effects will follow the daily use of active friction on the human subject. It has great power in strengthening the digestive organs, promoting a free perspiration, resolving obstructions, loosening contractions, and imparting a comfortable glow, and an increase of energy to the whole system. Thus it is uniformly of great service to the gouty and rheumatic, to the paralytic, the weakly, and the nervous; in short, to all persons afflicted with any chronic disease, or suffering under a state of general debility. It is also highly useful in promoting the growth and activity of children, and in preventing those obstructions to which they are liable, and therefore merits the regard of every parent.

Dr. Cadogan observes, that when a gouty person is unable to walk or ride at all, he may, by degrees, be brought to do both, *by means of friction*, and this I firmly believe. For that purpose, until he can

rub himself, a handy active servant, or two, must be employed to rub him all over, as he lies in bed, with flannels, or the flesh-brush, which will contribute greatly to brace and strengthen his nerves and fibres, and circulate his blood, without any fatigue to himself. He must thus endeavour, gradually to get strength to walk or ride, till he is able to walk two or three miles at a stretch, or to ride ten without being weary. This may seem but a trifling prescription to those who have never tried it sufficiently, or thought closely on the subject; but it is of the utmost consequence, and its effects are amazing, especially upon all those who are too weak to use any muscular motion themselves. Dessault relates the case of a man who attained the age of one hundred; but who for thirty years before his death, preserved himself from gout, to which he had long been a martyr, by constant friction. And Sir William Temple, who had been himself the subject of this disease, and had paid great attention to its correct and efficient treatment, ob-

serves, in reference to this point, that "no man need have the gout, who can keep a slave." To these testimonies in favour of the value of friction in gout, I may add those of Dr. Rogers and Dr. Stukely, two very respectable physicians of the last century. Dr. Rogers tried the plan of friction with oil, upon himself and others, with surprising efficacy, and declares he could give five hundred particular cases of its success. Dr. Stukely, (who was a Fellow of the College of Physicians,) published an interesting pamphlet on the subject, and says he tried it eleven years, "without any miscarriage that he was conscious of."*

Frictions are also of great use in rheumatism, paralytic affections, and either emaciation on the one hand, or corpulency on the other. The ancients, it would appear, had the art of rendering fat people lean, and those that were too lean, fleshy, partly by means of active exercise in general, but more especially by fric-

* Ring on Gout, page 55.

tions. Galen, in particular, is said in a short space of time, to have restored the flesh of many who had been emaciated, by means of friction with fat substances. It is reported on respectable authority, that a child having one of his legs strong and lusty, and the other much emaciated, frequent friction with flannels, held in the fumes of myrrh and benjamin, rendered his emaciated leg as strong and lusty as the other. Burton states, that another child, about five years of age, who could not stand, and whose back was so weak that it was quite bent, by using friction all over his body, more especially on the back-bone, and with the assistance of cold bathing, was quite recovered.

The case of Admiral Henry, of Rolvenden, in Kent, is a striking proof of the extraordinary power of exercise and friction in the cure of disease. It is far too long an account for me to introduce here, but I would remark that, by these means, and more especially by active friction, he cured himself of a most severe and obstinate rheumatic attack, and of a most ex-

cruciating pain in the eye, resembling tic douloureux, accompanied with great derangement of the general health, so that he was a cripple, and altogether reduced to a most deplorable state. After a long course of friction, to which means chiefly he attributes the restoration of his health, he writes, at the advanced age of ninety-one, to the following effect:—

"I never was better, and, at present, am likely to continue so. I step up and down stairs with an ease that surprises myself. As to gout, and similar complaints, they dare not approach. I have gone through every disorder that man can go through, but plague and fevers, and here I am *in very good condition.* I eat and drink most heartily; my digestion is excellent, and every food agrees. I can walk three miles to Tenterden without stopping."

It is peculiarly calculated for those who have weak nerves, who lead a sedentary life, who are subjected to a weakness or contraction in their joints, or who are threatened with paralytic disorders. They are thus enabled to supply the want of

exercise of other kinds, provided their whole bodies, more particularly their limbs, are rubbed for half an hour, morning and evening, with a flesh-brush, till the parts begin to grow red and warm. We should begin with the arms, hands, feet, legs, and thighs; and thence proceed to the shoulders, back, and breast: the head should be rubbed last of all. The effects of this practice, when resorted to with care and constancy, are more important than can be imagined; and though it cannot be attended with all the advantages derived from exercise in the open air, yet it is the best substitute for more active exertions that can be possibly suggested.*

The eminent utility of friction in reducing indurations, and removing contractions and stiffness in the joints, is well established. It was by a judicious plan of continued friction that the late Mr. Grosvenor, of Oxford, gained so

* Diligent friction was one of the chief means which Cicero used to regain his health, and by which he was quite restored, after he had become so weak, that his friends and physicians advised him to leave off pleading.

great a reputation for the cure of stiff joints, and many instances might easily be related of the value of his practice in such cases. Sir Astley Cooper observes, that when it is judiciously employed, the most beneficial results have been obtained, in the most obstinate contractions, and he relates the following interesting cases in proof.*

CASE X.

"A gentleman in the neighbourhood of Nottingham, when shooting, received a severe injury to his knee; after the violence of the first inflammatory symptoms had terminated, there remained considerable swelling, stiffness, and induration; for these he was attended by Mr. Attenborough, an eminent surgeon of Nottingham; as the gentleman did not get better, Mr. A. sent him to town, and here he for some time continued under my care and that of a physician; still the joint remained in the same state, and the means used were inadequate to afford relief. I advised him to go to Oxford, and consult Mr. Grosvenor. This he did; and as soon as Mr. G. saw him, and heard that his limb had been kept

* Surgical Lectures, No. VI.

quiet, he told him to walk to the bottom of Christ Church Meadow, and then return and dine, which he really did. Friction was used in this case, with the greatest success, for, within six weeks after he went to Oxford, he called upon me in town, quite recovered, and thanked me for recommending him to Mr. Grosvenor."

CASE XI.

"The late Mr. Hey, of Leeds, (continues Sir Astley Cooper,) had a son who met with a serious injury to his ankle-joint; after trying all that he could to relieve it, he sent him to Mr. Grosvenor; and under his care, by the judicious application of friction, the actions of the joint were completely restored."

Friction may be applied to the body by the hand, or with flannel, rough woollen gloves, or the flesh-brush. The flesh-brush is by far the best mode of applying friction, unless where the assistance of aromatics or embrocations is necessary. In cases where the application of cold water, in addition to moderate friction is recommended, a sponge is sometimes made use of, from its power

of absorbing water. But by immersing a flesh-brush in water, the same effect may be better obtained, as the advantages of friction, and the warmth and circulation which it occasions, are then gained at the same time with those of the cold water. This is the best mode of applying cold water to the head in case of giddiness, apoplectic or paralytic affections, headache, &c. in which cases the union of cold water and friction is often of inestimable benefit.

The best time for using friction is in the morning and evening, when the stomach is not distended by food, and the proper period for continuing it is from fifteen to thirty minutes, at each time. In case of bad swellings, or stiff joints, it is generally necessary to employ it for an hour, twice a day.

I shall now conclude the important subject of friction with the following illustration of its good effects, in improving the general health of a distinguished literary character, who relates his own case.*

* Sir John Sinclair's Code of Health, page 456.

CASE XII.

"Having been recommended the use of the flesh-brush at the age of sixty-seven, I desired to know, when was the best time for applying it; the answer was, whenever most convenient. Being in London, and consequently denied the exercise usually taken in the country, and being accustomed to retire early to bed, I was subject to waking in the night. I took advantage of these opportunities to strip off my shirt and flannel waistcoat, to jump out of bed, and to brush, (holding a brush in each hand,) till I was tired, and then went to bed again. This plan answered, and my sleep became unbroken, till the usual hour of rising. I had, for many years, applied cold water, at all seasons, as soon as I was out of bed, but now changed it for the flesh-brush, using it during fifteen or twenty minutes; this continued for about three months; and it is remarkable, that a cutaneous eruption, somewhat resembling a nettle springe, which often appeared upon parts of the body, entirely ceased, nor did it re-appear until after the application of cold water, always followed by the brush, but in a degree seldomer, and less than formerly. It is more than a year since I began the use of the brush, and my health in general has, upon the

whole, been better *than for thirty years before.* I had been much subject to rheumatic pains, but they have been brushed away with great success, once only excepted in the hip, and then by applying salt and water, strong enough to swim an egg, rubbing it in with the hand before a fire, on going to bed, two of these applications carried it off. I do not know to what to attribute my good health, under God, unless to the flesh-brush, as no other variation in my habits of living took place. It appears to me, that it answers the purpose of moderate and healthy exercise, assists in freeing the skin from all impurities, and keeps the pores clear and open. The brush is applied to the back by means of a leather across its centre, thus rendering three brushes unnecessary. The harder the brushes are, the better for the operation."

Beside the different kinds of exercise which I have now noticed, there are several others, that are very useful, but which it is not necessary for me to describe. I would observe, however, that the use of the shuttle-cock, and dumb-bells, and exercising the voice, are worthy of much regard, as tending to preserve health and prolong life.

The use of the shuttle-cock is an excellent mode of exercise, and I have the more pleasure in recommending it, as it is so well calculated for females, who cannot, with convenience and propriety, at all times, use so much riding or walking, or other kinds of exercise, as is necessary to keep them healthy. The shuttle-cock was a fashionable pastime among grown persons in the reign of James I., and it is a most desirable circumstance that it should again become fashionable, especially among ladies. With the advantage of its being a social diversion, it most agreeably exercises the whole human frame, by the various attitudes the players are perpetually putting themselves in; of course, it creates a graceful pliancy in the joints and muscles, accelerates the circulation of the blood, and propels to the cutaneous pores, all the fluids prepared by nature to pass off by this easy and salutary way; it also promotes the digestive powers; and, if used before dinner, will admit of a considerable share of exertion, not only without danger, but

with great advantage, if care be taken not to drink any thing cold at the time. This exercise is peculiarly beneficial to such invalids as have sufficient strength to play at it, which should be always carried on in the open air, if practicable. Young ladies at school ought, in every instance, to be daily exercised with the shuttle-cock.

The use of the dumb-bells is much inferior to that of the shuttle-cock, but is still useful, and has this advantage, that it can be resorted to at any time of the day, whenever we have a few moments to spare. It certainly is of much service in exercising the arms, back, and chest. Addison appears to have been fond of an exercise similar to the present, which we may properly call *the lead exercise.*

"When, (says he,) I was some years younger than I am at present, I used to employ myself in a more laborious diversion, which I learned from a Latin treatise of exercises, that is written with great erudition: it is there called *the fighting with a man's own shadow;* and consists in the brandishing two short sticks, grasped in each

hand, and loaded with plugs of lead at either end. This opens the chest, exercises the limbs, and gives a man all the pleasure of boxing, without the blows. I could wish that several learned men would lay out that time which they employ in controversies and disputes about nothing, in this method of fighting with their own shadows. It might conduce very much to evaporate the spleen, which makes them uneasy to the public, as well as to themselves."*

Exercising the voice in speaking is a useful sort of exercise, and particularly salutary to the female sex, who are more confined at home than men. Dr. Andrew pleasantly remarks, that one reason why women require less bodily exercise than men, is that they are often more loquacious. Loud reading and speaking are also of singular advantage to literary men, affording them a substitute for other kinds of exercise, for which they will seldom give themselves sufficient leisure. It is supposed that to this cause we may justly ascribe the longevity of many schoolmasters and teachers in universities,

* Spectator, No. 115.

who, notwithstanding their sedentary employments, and the vitiated air they daily breathe in school-rooms, preserve their health, and attain a long life. Celsus strongly recommends reading aloud to those who have weak stomachs.

Singing is another mode of exercising the voice, which, in moderation, may be attended with beneficial consequences, or, at least, may be useful to those important organs the lungs; and is also to be recommended, on account of its enlivening effects upon the mind. Those sedentary artificers, or mechanics, therefore, who, from habit, almost always sing at their work, unintentionally contribute much to the preservation of their health.

OF EXERCISE IN RESPECT TO TIME AND QUANTITY.

Exercise should precede meals, not immediately follow them; the first promotes, the latter, unless very moderate, obstructs digestion. Generally speaking, between breakfast and dinner, when the weather

is not too hot, is the best time for active bodily exertion in the open air; but exercise may be taken with great advantage at all times of the day, when the stomach is not actively engaged in the digestion of food, and the weather is favourable. In the spring and summer, early in the morning, before breakfast, is a very proper time for exercise to those who find it to be attended with no unpleasant effects.

The quantity of exercise to be taken, must necessarily vary a little, according to the season, and the age and constitution of the patient, but most people, possessed of moderate strength, find a good deal of bodily exertion highly beneficial, and it is an indisputable fact, that very many weakly persons, not only bear such exertion well, but require it. The majority of individuals in this kingdom, are here much more prone to err on the side of deficiency, than on that of excess. It appears to the present author to be an indispensable law of longevity, that we should exercise, *at least*, two hours every day, *in the open air*, when the weather

will permit; and if the time be extended to three or four hours, the benefit will generally be greatly augmented. I do not mean that the whole of this time should be spent at once, for the times of exercising may be regulated according to the convenience and strength of the individual. It is a good rule, to appropriate a considerable and fixed time daily, for being out in the open air, and taking exercise, which should, I think, at least once a day proceed to the borders of fatigue, or, in other words, should be continued till we feel an agreeable lassitude, and a sensible degree of perspiration. In using exercise, a little fatigue need not be feared, excepting under a state of great debility. Some have said, it should never pass the borders of fatigue, but this is certainly an error, at least as it respects all persons not labouring under much weakness and disease. Man, indeed, in a state of high refinement, is prone to err to the side of deficiency, in regard to daily active exertion of body, but we have abundant proof that nature does not sanction the ordinary

views of refined society on this point. In the use of means so essentially necessary to health and strength, she continually shows us that we ought not, in general, to be very nice in respect to its quantity; and I will venture to assert, that there is scarcely an individual in possession of moderate strength, who has not often found exercise carried, even frequently, to the extent of producing a sensible degree of fatigue, to have been highly grateful and beneficial.* Dr. Cheyne used to say, that the valetudinarian and the studious ought to have stated times for riding or walking, and that in good air. Three hours should at least, in his opinion, be allotted for riding, or two for walking, the one half before dinner, and the other half, in the summer season, in the evening; the first to beget an appetite, and the second to perfect digestion, and to promote sleep.

* The number of muscles in the human body, is four hundred and seventy-four, and that of the bones two hundred and forty-seven, and it is reasonable to conclude, that a very considerable degree of active corporeal exertion must be daily necessary, in order to afford sufficient exercise to so large a number of bodies possessing great solidity.

I am firmly persuaded, that all persons in moderate or good health, will derive great advantage from a long walk, as of eight or nine miles, about once a week, or once in ten days. Indeed, many delicate subjects will find such a practice of the greatest service in strengthening the digestive organs, and improving the state of the skin, and the tone of the nervous system; as I have found from personal experience. I know a very weakly man, who gains the most sensible and grateful advantage from such a course; the benefit to him is certainly the greater, if it is followed up twice or thrice a week. He walks four miles and a half into the country, then rests, and, after taking light refreshment, walks back again. Sir John Sinclair says, on this subject, "I was formerly accustomed to take only moderate exercise, sometimes on horseback, and sometimes on foot; walking, perhaps, three or four miles, at a moderate pace, I thought would be sufficient. But by way of experiment, I was accidentally led to take a walk of eight miles, on an

ascent, and in cold weather, and to walk quickly, so as to throw myself into a perspiration. The consequence was, a hearty appetite for dinner, and a pleasant and comfortable sensation for several days after. I am persuaded, that by active exercise, and the abundant perspiration thereby excited, the body gets rid of some morbific, and highly noxious matter, which renders the frame dull and sluggish; and that the body will become light and healthy when it is expelled." I fully concur with this nobleman as to the utility of occasionally exciting a free perspiration by active bodily exertion.

It is well known that very active exercise is more necessary in cold than in hot countries, and is peculiarly essential during the winter season, for promoting perspiration, as the best defence against outward cold, and likewise for the better digestion of the gross and noxious aliments we are apt to live on at that period of the year. Nothing, indeed, is more conducive to bodily health, than long walks in winter, when the air is pure

and bracing, and the cold excites quickness of motion. Nor has any of the seasons a more beneficial influence on our health than winter. But this we counteract, by continually indulging in the heated air of our parlours, which lays a foundation for the diseases of the spring, which we then erroneously ascribe to that season of the year.

The following may be taken as a good general rule—that the lean should exercise *ad ruborem*, that is, till the body and spirits are gently heated,—for that will help to fatten them; and the fat *ad sudorem*, that is, till they perspire,—for that will help to reduce them, and, consequently, extenuate the body.

It is a just observation, that exercise, at all seasons of the year, should be proportioned to the powers. For those who are very weak, in general, it is better to take three short walks than one long one. It ought to be constantly inculcated to mothers and nursery-maids, that delicate children should not be allowed to walk too long at a time. But strong children

will almost always be much benefited by a great deal of exercise.

People in years should never give way to a remission of exercise. They generally require a considerable portion, but it should be of a temperate description, and such as does not occasion much fatigue, unless their habit of body be too full, when, in order to diminish its bulk, the exercise may be brisker. Walking, on the whole, agrees best with them, as it does, indeed, with most other persons in tolerable health, unless they have been long accustomed to any other exercise. Whoever examines the accounts handed down to us of the longest livers, will generally find, that to the very last, they used some exercise, as walking a certain distance every day, &c. This is mentioned as something surprising in them, considering their great age; whereas, the truth is, that their living to such an age, without some such exercise, would have been the wonder.*

* Institutes of Health, p. 24.

When sickly people, get into a convalescent state, exercise, under a proper system, is essential for their recovery. They are apt to be alarmed at the pain and trouble which often accompany their first attempts to take exercise, at least to any extent. They ought, at the commencement, to desist as soon as they begin to find themselves fatigued; but every day they will be enabled to bear it longer; and the more they persevere, the stronger they will become. It has been well said by Cheyne, that the weak and valetudinary, the studious and contemplative, *ought to make exercise a part of their religion,* as it is among some of the eastern nations, with whom pilgrimages, at stated times, are an indispensable duty.

If, on returning from their exercise, invalids find themselves chilled by the cold air, instead of warming themselves over the fire, they ought to sit down well clothed, in a remote part of the room, until their feelings are gradually reconciled to the temperature of the air therein. By

this precaution, all the hazard of rushing from one extreme to another, may be avoided.

When an invalid is confined at home by bad weather, any active domestic exercise, like that of the shuttle-cock, ought to be performed several times a day, in a room ventilated by an open sash, taking care to avoid the draught of air. This will be found a more salutary mode of warming the body, than by the heat of fires.

The following general or miscellaneous rules regarding exercise, merit particular attention.

1. The effect of any exercise should be as general as possible, and not confined to any particular limb or part of the body. Those kinds of exercise, therefore, which give action to the greatest number of the bodily organs, as walking, running, riding, &c., are much to be preferred. 2. Little benefit is to be expected from exercise, unless it be performed in a pure air; and hence it is, that many manufacturers and artificers, who perform all their labour

under cover, and are often exposed to unwholesome effluvia, from the materials they work upon, are more unhealthy than almost any other class of men. 3. The higher, the drier, and the more varied any air is, the more beneficial must be the exercise. 4. On commencing any exercise, begin with the more gentle, and then proceed to the more laborious: and as sudden transitions are always wrong, follow the same rule when exercise is given up. 5. A good appetite after exercise, is a proof that it has not been carried to any improper excess. 6. After having taken exercise, we should not venture to expose ourselves to a current of air, or rest out of doors, in a cool or exposed place, or lie down on a green plot. A sudden change of temperature, by suppressing perspiration, may be extremely injurious. 7. When persons are confined within doors, leading a sedentary life, they will not compensate for the want of regular exercise, by a hard ride or walk once a week; for the nerves of such people, being unaccustomed to bear such a degree of

agitation, are overstrained and relaxed by it, and the circulation of the fluids, which is in general slow and languid, will be thrown into disorder. 8. It is a good rule, frequently to vary the exercise you take. 9. Lord Bacon correctly observes, it is requisite to long life, that the body should never abide long in one posture, but every half hour at least, should change it, saving only in sleep. 10. Muscular motion is most agreeable and healthful, when the stomach is neither too empty, nor too much distended. 11. Nothing can be more injudicious than to sit down to a substantial dinner or supper, immediately after a fatiguing walk, ride, or other violent exertion. When the body is heated, or in a state of perspiration, to devour quantities of solid food can never be wholesome. Every man, therefore, should rest for some time after exercise, before he sits down either to dinner or supper. 12. It is well known to be an important rule, carefully to avoid drinking cold liquors, either during, or after, violent or great exercise. By then drinking liquids

blood-warm, they will quench thirst better, and do no injury. 13. In taking exercise, the dress should be free and easy, particularly on the neck and joints. 14. In violent exercises, a flannel waistcoat ought to be worn next the skin, to obviate the possibility of injury. 15. It is found very refreshing, after fatiguing exercise, to wash the feet in warm water, before going to bed. 16. Serious thinking, when we are walking, or taking any other exercise, soon fatigues us; but if we give ourselves up to amusing thoughts, or the conversation of agreeable and intelligent friends, the exercise is restorative. 17. It is very desirable to have a certain object or spot by which the exertion is to be bounded; as to call at the house of a friend, to see some delightful prospect, and the like.

" By ceaseless action, all that is subsists;
Constant rotation of the unwearied wheel
That Nature rides upon, maintains her health,
Her beauty, her fertility. She dreads an instant's pause,
And lives but while she moves."

Cowper's Task.

SECTION III.

OF SLEEP.

"When tired with vain rotations of the day,
Sleep winds us up for the succeeding dawn."
Young.

Sleep has been very justly called "the chief nourisher in life's feast." Sound refreshing sleep is of the utmost consequence to the health of the body, and the vigour of the mental and corporeal faculties; indeed, so great is its value, and so universal its effect, that no substitute can be found for it, and if it does not pay its accustomed visit, every individual, without exception, feels his whole frame to be thrown into disorder, his appetite ceases, his strength fails, his spirits become oppressed and dejected, and, if the deprivation is long continued, he is soon reduced to a state of the utmost misery. Most persons are sensible of the beneficial

effects of this "sweet restorer," but very few are fully aware of all its value and advantages, or the means of insuring a regular return of it would be more generally and studiously cultivated.

The advantages of sleep are, that by it the exhausted constitution is repaired, and the vital energies restored; the process of assimilation or nourishment goes on more perfectly; perspiration is promoted, and thus much acrid matter is expelled; the vigour of the mental faculties is renewed, and the body attains its proper growth. Sleep also contributes to the prolongation of life, and in many cases to the restoration of health, and the cure of disease. These inestimable advantages caused the celebrated Kant to observe,—"Take from man hope and sleep, and you will make him the most wretched being upon earth."

During the day, the irritability or excitability natural to the human frame in an ordinary state of health, is exhausted by light, heat, sound, and, above all, by bodily exercise and mental exertion, and

sleep is the method which nature has provided for the re-accumulation of this excitability, and the consequent restoration of the vital energy, which the body had lost by its former exertions.

When we are awake, the nice and delicate process of perfect assimilation cannot be so well carried on, because the incessant action of the body and mind, being always partial and irregular, prevents the equal distribution of the blood to all parts alike. In sleep, when it is quiet and natural, all the muscles of the body, that is, all active powers which are subject to our will, are lulled to rest, composed and relaxed into a temporary kind of torpor, that leaves not the least obstruction or hindrance to the blood being transmitted to every atom of the frame; the pulse is then slower and more equal, the respiration deeper and more regular, and the same degree of vital warmth is diffused alike through every part, so that the extremities are equally warm with the heart.

In sleep, all the voluntary motions which are of an exhausting nature cease,

but those that are vital and involuntary, which, instead of being exhausting, serve to recruit our strength, continue in full force: these are, the motion of the alimentary canal, on which nutrition depends; the motion of the heart, which distributes the blood to every part of the animated frame; respiration, which supplies the pabulum of life; and perspiration, by which the acrid matter in the body is expelled. Indeed, during sleep, nothing passes through the pores of a healthy person, but what is thoroughly digested, and fitted to be thrown off.*

Scarcely anything so speedily and so largely consumes the nervous power as intense thought, and nothing so effectually restores this power as sound sleep. By sleep also, those violent passions, by which the frame is often so much agitated and exhausted, are appeased; and after refreshing slumbers, we can reflect on our disquietudes with a calm mind, and again reconcile ourselves to the troubles of life.

* Townsend's Guide to Health, vol. ii. p. 71.

As the body receives nourishment during sleep, its growth must be thereby promoted. It has been ascertained by experiment, that young plants grow in the night time, which is generally their time of sleep; and there is every reason to believe that young animals follow the same rule. Hence, indeed, it is, that more sleep is necessary for children than for adults; and, in general, it has been remarked, that a person is considerably taller when he rises in the morning, refreshed with sound sleep, than when he goes to bed at night, exhausted by the labours of the day. During sleep, there is also a manifest relaxation of the fibres, and the body becomes more plump, so that any ligatures, if close, are apt to become painful; and on that account, many persons find it advisable to loosen the collar, or any tight part of their dress, when they go to rest.

Among the marks and symptoms of longevity, that of being naturally a long and sound sleeper, is justly considered to be one of the surest indications. This

appears to be owing to the physical effects of sleep, which retards all the vital movements, collects the vital power, and restores what has been lost in the course of the preceding day. Indeed, if great watchfulness, by accelerating the consumption of the fluids and solids, abridges life, a proper quantity of repose must tend to its prolongation.*

Moreover, in most diseases, securing sound sleep, is a decisive symptom of recovery, and is a principal object with every able physician. Indeed, many diseases cannot be cured if the necessary rest be wanting. Since the days of Hippocrates, the father of physic, sleep has been accounted a most desirable and welcome guest in fevers, diminishing the rapid motion of the blood, and rendering the body cooler. It is likewise of great advantage in checking extraordinary evacuation: hence its utility in looseness and bloody flux. The comfort which sleep affords to persons afflicted with gouty complaints, pleurisies, and consumptions,

* Hufeland on Long Life, vol. ii. p. 196.

need not be dwelt upon; and in deliriums and phrenzies, it is certainly the most effectual means of restoration.

The preceding observations, of course, refer only to a proper quantity of sleep, as few things are more pernicious than too great an indulgence in it. This excess brings on a sluggishness, and dulness of all the animal functions, and materially tends to weaken the whole body. It blunts and destroys the senses, and renders both the body and mind unfit for action. From the slowness of the circulation which it occasions, there necessarily follows great corpulency, a bloated habit of body, and a tendency to dropsy, lethargy, apoplexy, and other disorders. Under this head, then, we have to consider principally, 1. The number of hours necessary for sleep; 2. The period best calculated for that purpose; and 3. the means of promoting sleep when wanted.

OF THE QUANTITY OF SLEEP.

The number of hours necessary for sleep, is a point which has occasioned much discussion; but the opinion generally entertained by the ablest physicians, is, that although it must necessarily vary a little according to the age and strength of individuals, yet from seven to eight hours, in the four and twenty, is the proper time, and that this period should scarcely ever be exceeded by adults, who are desirous of attaining long life. Seven hours sleep in the twenty-four, is what I am inclined to recommend as the standard for persons who are strong and healthy, and eight hours for such as are weakly, or in ill health. It is indisputable, that the delicate require more than the vigorous, women more than men, and very young children more than either;* but it is worthy of particular remark, that the

* Children are an exception to the above rules. They require a great deal of sleep, and should, in general, be permitted to indulge in it to their full satisfaction.

sick and weakly seldom require more than eight hours and a half, or at the most nine hours, and will rarely, if ever, fail to be injured by a longer indulgence. A sufficiency of sleep is powerfully restorative, but I am fully persuaded that an excess, of even an hour, is highly detrimental. Every one, therefore, should endeavour to ascertain what quantity of sleep he requires, that is, by what quantity he is rendered most comfortable and vigorous through the day, which all may readily ascertain by experiment. That celebrated and excellent man, Mr. John Wesley, who was very attentive to the use of the best means of invigorating his body, so that he might be able to exert himself for the general benefit of mankind, to the utmost that his corporeal and mental powers would allow, states, that he had been accustomed to awake every night about twelve or one, and lay awake for some time; and thence concluded, that this arose from his lying in bed longer than nature required. To be satisfied on this head, he procured an

alarum, which awakened him next morning at seven, near an hour earlier than he had risen before; yet he lay awake again at night. The next morning he rose at six; but, notwithstanding this, he lay awake the second night. The third morning he rose at five; but, nevertheless, lay awake the third night. The fourth morning, he rose at four; and, lying awake no more, he, for a period of above sixty years, continued the same practice; and, taking the year round, he never lay awake for a quarter of an hour together, in a month. He justly adds, that by the same experiment, (rising earlier and earlier every morning,) any man may find out how much sleep he really wants. Mr. Wesley was in the habit of going to bed at ten, so that in rising at four he had six hours sleep, which, we see, he considered sufficient for himself, although he allows that invalids and delicate persons may require seven or eight hours.

Nothing can be more absurd, than for any individual, who wishes to accomplish great things, to deny himself the advan-

tage either of sleep or exercise. Many studious men fall into a great and pernicious error in abridging their proper time for repose, in order that they may have the longer period for study. This is highly detrimental both to the mind and body, for the mind that has been much exercised through the day, not only seeks to recruit its strength in sound and refreshing sleep, but, I am convinced, cannot regain its utmost energy without it; so that, instead of any advantage being gained by so bad a practice, there must necessarily be a loss. It has been justly observed, that any person can go through as much business as is necessary, for any considerable period of time, by an uniform application, at the rate of eight hours a day; which will leave abundance of time for sleep and exercise. It appears, from Cooper's Memoirs of Dr. Priestley, that though he is supposed to have written more, and on a greater variety of subjects, than any other English author, yet it does not appear, that, at any period of his life, he spent more than six or eight hours a

day in business that required much mental exertion. Let any one, then, devote from seven to eight hours to sleep; and from three to four exercise, and even four hours to meals and to amusement; and he will be enabled, from the refreshment which his body, his mind, and his spirits, thus receive, to do a greater quantity of business, and to study with more advantage, in the course of twelve months, than if he were to labour at his books for ten or twelve hours a day, by which his health and spirits would probably be materially affected.*

It is proper to add, that the opposite extreme of indulging in too much sleep, should be carefully avoided. By *soaking* for nine, ten, or eleven hours between warm sheets, the flesh becomes soft and flabby, the strength of the digestive organs impaired, and the nervous system relaxed and enervated.

* Sinclair's Code of Health, 310.

OF THE TIME PROPER FOR REPOSE.

Nature certainly intended exercise for the day, and rest for the night. As soon as the sun quits our part of the globe, and the atmosphere we breathe in is divested of its enlivening rays, our nerves and fibres become relaxed, our muscles lose somewhat of their contracting force, and we find, as it were, a natural propensity to rest. But if, running counter to the laws of nature, whether by exercise or rioting, we keep up, during night, the contractions of our voluntary muscles, and the tensions of our nerves and fibres, at a time when they should be relaxed, and endeavour to relax them in the day time, when they should be contracted, we disturb the whole economy of our bodies, by which health must ultimately be destroyed. The young are thence apt to fall into consumptions, hectic fevers, or other acute disorders, whilst, as Williams justly remarks, those advanced in years, become victims to the

more lasting torments of a chronical disease. Another point to be considered is, that by the custom of sitting up late at night, the eyes suffer severely, daylight being much more favourable to those delicate organs, than any artificial light whatsoever.

Valangin relates a circumstance that satisfactorily proves the advantage of sleeping in the night, instead of the day. It is that of an experiment made by two colonels of horse in the French army, who had much disputed which period of the day was fittest for marching, and for repose. As it was an interesting subject, in a military point of view, to have it ascertained, they obtained leave from the commanding officer to try the experiment. One of them, although it was in the heat of summer, marched in the day, and rested at night, and arrived at the end of a march of 600 miles, without the loss of either men or horses; but the other, who thought it would be less fatiguing to march in the cool of the evening, and part of the night, than in the heat of the

day, at the end of the same march, had lost most of his horses, and some of his men.

In hot climates, more especially in the neighbourhood of swampy ground, persons cannot too sedulously avoid being out after sun-set, on account of the extremely deleterious qualities of the air at that period, which, indeed, in many places is certain death, and in most is powerfully influential in the production of dysentery, and some of the worst fevers that prevail in those regions. Dr. Lind relates a striking proof of the baneful effects of the night air at Batavia. "During the sickly season, (says he,) a boat, belonging to the Medway man of war, which attended on shore every night to bring fresh provisions, *was three times successively manned*, not one of her crew having survived that service."*

* And Dr. James Johnson observes, in reference to this point, "Nothing could more clearly prove the limited range of marsh effluvium, than the contrast between the health of the navy and that of the army. Although the ships were distributed all along the shores of Walcheren and Beveland, from Flushing to Batz, most of them within a cable's length of the banks, yet no sick-

The plan of going to bed early and rising betimes, has been called the golden rule for the attainment of health and long life, and is a maxim sanctioned by various proverbial expressions. It is an undoubted fact, that when old people have been examined, regarding the causes of their long life, they have uniformly agreed in one particular, that they went to bed early, and rose early; and, without going to so great an extent as to consider early rising as the principal fundamental law of longevity, I am convinced it is attended with excellent effects, and am much disposed to concur in the correctness of the old doggrel rhyme,—

"Early to bed, and early to rise,
Makes a man healthy, wealthy, and wise."

In regard to sleeping in the day-time, and more especially after dinner, it should

ness occurred, except among such parts of the crews as were much employed on shore, *and remained there during the night.* Most officers of ships, and many of the men, were in the habit of making excursions through all parts of the islands by day, with complete immunity from fever. *The night was here, as in sultry climates, the period of danger.*" On Tropical Climates, p. 99.

be remarked, that although many persons, who have enjoyed good health, have long been in the habit of sleeping a little in the afternoon, yet it is, upon the whole, not to be recommended. One grand objection to it is, that it is contrary to the course pointed out by nature, which has allotted the night for sleep, and the day for exertion; and it may be added, that the most healthy persons are very rarely found to sleep after dinner. When individuals in the possession of a good measure of health and strength, find an inclination to sleep after dinner, it is very commonly owing to their having eaten too much. I have already remarked at page 119, that those who take no more than is required for the growth and nourishment of the body, find themselves lighter, and more cheerful, after a substantial meal, than before it, and that subsequent heaviness and torpor is a sure sign of excess. Many will be disposed to doubt this, but it is fully ascertained to be a fact; and if those who still continue doubtful on the subject, will make the experiment for a

couple of months, of partaking only of that quantity of food at dinner, which does *not* make them heavy and sleepy, but, on the contrary, lighter and more lively than before, they will infallibly find their health and strength so much improved, as to convince them of the truth of what is now advanced. Notwithstanding, to the weakly and the aged, a "forty wink's nap," in the middle of the day, will often prove useful, if it does not interfere with the rest at night; if it does, every one must see the propriety of putting an immediate stop to the practice. Half an hour's, or an hour's sleep after dinner, is frequently of much service to literary men, when they have been previously engaged in close mental application,* and to all persons after great mental disquietude, from whatever cause arising. Mental anxiety is well known to be ex-

* The late celebrated surgeon, John Hunter, was in the habit of taking half an hour's sleep every day, as soon as the cloth was removed from the dining table, and if disturbed, was always much displeased. To him it no doubt proved a valuable restorative, as he was constantly engaged in mental exercises, rose early in the morning, and was withal in very delicate health.

tremely exhausting, and sleep in this case proves one of the most powerful restoratives that can be had. In plethoric habits, sleeping in the day is most decidedly objectionable.

The best posture for sleeping in after dinner, is, in my opinion, a reclining one in a large arm chair, with the feet and legs raised on a high stool. This I have found to suit the feeble much better than an horizontal position. Some professional men recommend the latter mode, and Dr. Darwin says, (*in Zoonomia, vol. iv. p.* 137,) "People who are feeble, digest their dinner best, if they lie down and sleep, as most animals do, when their stomachs are full;" but this I regard as a mistake. Dr. Darwin probably never laboured under indigestion, but I have, and am convinced that by far the greater number of persons who have weak stomachs, do not find themselves so comfortable, and digestion to proceed with so much ease, in the recumbent position on a sofa, as in a reclining one in a large chair. The strong and active may not

experience any uneasiness in the recumbent posture, but the feelings of the dyspeptic will soon declare against it. In some cases of indigestion, I have known it sufficient to produce immediately a very uncomfortable sensation of weight and oppression at the pit of the stomach.

OF THE BEST MEANS OF PROMOTING SLEEP.

Sleep is so natural to man, that, in almost every instance, where the individual is in tolerable health, it must be his own fault, if he does not enjoy it to that extent which is so essential for his comfort and happiness. Even in ill health, a proper attention to the best means of promoting sleep will very often be crowned with great success, and I have reason to believe, that many invalids suffer greatly for want of the refreshment it is so eminently calculated to impart, either from ignorance of the methods by which it is to be procured, or from a neglect to use them.

The principal circumstances to be attended to, in order to procure refreshing

sleep, are, the nature and quantity of our food and exercise; the size and ventilation of the bedchamber; the kind of bed and clothing; and the state of the mind.

It is certain that a full stomach* almost invariably occasions restless nights, and it is therefore an important rule to make a very light supper, and not to take any food later than an hour, or an hour and a half, before bed-time. Towards evening the digestive organs seek for repose, in conjunction with every other part of the body; they are then fatigued and enervated by the labours of the day; and,

* The night-mare is almost always a symptom of indigestion, and very often arises from the stomach being over-loaded at night, or from taking food of an indigestible nature at supper. It should be remarked, however, that immoderate repletion during any part of the preceding day, will give rise to night-mare, although nothing may have been taken at supper. The cure of this affection will depend on improving the condition of the digestive organs, by attention to diet, active exercise, and the use of alterative and stomachic medicines. The pills, No. 1, will be very useful. (See the end of the volume.) If the complaint is very troublesome, more especially if associated with severe derangement in the constitution, one of the pills, No. 3, ought also to be taken at night. A Mr. Waller, who was much harrassed by this complaint, has recommended a large dose of the carbonate of soda to be taken once or twice a day; but, although useful, it is not, in my opinion, so efficacious as the preceding means.

consequently, to give them much to do at that period, cannot fail to irritate and disorder them, which irritation, from the stomach being the grand centre of sympathies, is quickly propagated, through the medium of the nervous system, to every part of the body—hence arises general restlessness, instead of a disposition to sleep. It is worthy of observation also, that the stomach will sometimes be much irritated by a small quantity of indigestible food taken at night, and thus may sleep be prevented as certainly as if the organ were overloaded with food.

A sufficient quantity of exercise or muscular exertion, powerfully contributes to sleep, and a principal reason why so many bilious and nervous persons are so distressed for want of it, is from neglecting to take active exercise in the day. With some persons, the most effectual methods of procuring sleep will fail, unless exercise be resorted to. I mean, of course, exercise in the open air, the breathing of which of itself has an exhilarating and soothing effect on the mind,

conducive to sound repose. It is an excellent plan to walk up and down a large room, or passage, for half an hour, or more, before going to bed, and the use of the dumb-bells for a part of the time will augment its good effects. This is a most desirable practice for literary men, and other sedentary individuals. The celebrated Cato, of Utica, was accustomed to walk about after supper, before he endeavoured to settle himself to sleep.

The size, ventilation, and coolness of the bed-chamber deserve much regard. Our sleeping apartments ought to be airy, large, and lofty, and not situated on a ground-floor, and much less under ground. The modern practice of building houses with kitchens under ground, is highly pernicious to health, and may be truly called burying people before their time, for the lives of many are shortened by it. Nothing can be more imprudent or absurd, than the conduct of those who having spacious houses, prefer to sleep in small apartments. The more airy a bedroom is, the better for health.

A bed-chamber should be well ventilated in the day time, as it is principally occupied in the night, when all the doors and windows are shut. The windows should be kept open, as much as the season will admit of, during the day; and sleep will probably be more sound and beneficial, in proportion as that rule is practised. Indeed, it is very material, both for invalids, and persons in health, that there should be an admission of a free circulation of air into their bed-chambers, in every possible way. For this reason, chimney-boards should rarely be used.

There are many ways of ventilating our sleeping rooms during the night, as removing the chimney-board, leaving the door open, or a window in an adjoining apartment. During the warm close weather of summer, or autumn, a part of the sash of a window in our apartment may be left open, the current of air being interrupted by the shutter, or by dropping a window curtain before it. The order in which these means are used, and

the extent to which they are carried, must be left to the individual. We may bring ourselves, by degrees, to bear a very free circulation of air in our sleeping rooms, during the night, but great and sudden changes must be carefully avoided. Dr. Adair states, that a gentleman who had laboured for many years under a complication of nervous symptoms, for which he had obtained no relief from medicine, at length determined to try the effects of ventilating his chamber in the manner above described, and was benefited thereby beyond expectation. An eminent physician also, who had, for many years, been occasionally subject to palpitations of the heart, shortness of breathing, great anxiety and depression of spirits, universal tremor, and other symptoms of the kind usually called nervous, had made trial of many medicines of the antispasmodic kind, but had found nothing so effectual as a strict attention to preserve a due temperature of body during the night, at which time the symptoms were most apt to recur. He

says, that in order to preserve that temperature, he found it necessary to use only a moderately thin quilt in the summer, with the addition of a moderately warm blanket in the winter, and no fire in the room, one window of which was kept open all night in the summer, and the whole of the day in cold weather. This regimen produced sound and refreshing sleep, and almost an entire exemption from any troublesome symptoms of a similar kind, that frequently came on in the day time.

Dr. Franklin correctly remarks, that a constant supply of fresh air in a bed-chamber, is a grand means of preserving health. He says,

"It has been a great mistake, to sleep in rooms exactly closed, and in beds surrounded by curtains. No outward air that may come in to you, is so unwholesome as the unchanged air, often breathed, of a close chamber. As boiling water does not grow hotter by longer boiling, if the particles that receive greater heat can escape; so living bodies do not putrify, if the particles, as fast as they become putrid, can be thrown off.

Nature expels them by the pores of the skin and lungs; and in a free open air, they are carried off, but in a close room, we receive them again and again, though they become more and more corrupt. Confined air, when saturated with perspirable matter, will not receive more, and that noxious matter must remain in our bodies, and occasion diseases."

The temperature of the bed-room ought to be about 50° of Fahrenheit's thermometer, which is rather cool, and most conducive to sleep. A very warm room is unhealthy, and renders us restless. And unless there be any apprehension of damp, a bed-room, more especially if small, should never have a fire in it, except in the freezing nights of winter, as it unduly raises the temperature, vitiates the air, and renders us more susceptible to variations of the weather. The burning of a rush-light, or lamp, during the night, is also objectionable, as it tends to prevent the rest of those whose sleep is uneasy, particularly of the aged.

The materials on which we sleep, is of much consequence both as it regards our

health, and the soundness of our repose. The use of feather-beds is now almost universal in this country, yet there can be no doubt that they are highly injurious to health, and have a tendency to prevent sleep, especially in the summer. To the invalid, and those who are disposed to distortion of the spine and shoulder, they are particularly hurtful. Such as will have them in the winter, should invariably exchange them for a mattress in the spring and summer. Our great philosopher Locke wisely remarks, that the bed should be hard for strengthening the parts; whereas, being buried every night in feathers, melts and dissolves the body, is often the cause of weakness, and the forerunner of an early grave. Warmth about the kidneys, the necessary consequence of sleeping on down and feather beds, is very apt to breed the gravel and stone, and to occasion other disorders. On the whole, the invention of what are called hair mattresses, is superior to every other for this country, and it is highly desirable they should be generally adopted.

Feather-beds are more injurious to the health of children, than even of adults, and especially if they are weakly.

In northern climates, feather beds are often necessary, and in Great Britain, the aged may often require them, in order to preserve or increase their heat, which is sometimes inconsiderable, and if lessened would prevent their sleeping.

The bed-clothes should also be as light and cool as possible in the spring and summer, and in the winter no more than just sufficient to preserve a due degree of warmth. Young people and invalids, in particular, ought to avoid many bed-clothes. The head should be only lightly covered. In my opinion, the use of curtains should be avoided, that is, they ought not to be drawn in any degree around the bedstead, of any person who is desirous of having good health and sound sleep. It is impossible to conceive of what utility they can be; they cannot with propriety be used to exclude light or cold, because the former should be excluded by window blinds, and as it

respects the latter, it has been my aim, throughout these observations, to show that the chamber should be airy, which object will be effectually counteracted by close drawn curtains.

The old custom of warming the bed, deserves to be reprobated, as it has a direct tendency to produce debility. A cold bed, is a sort of cold bath, and the slight chill arising from it is beneficial to health, and conducive to subsequent repose.

The Chinese have paid very particular attention to the subject of sleep; and, among other maxims, strongly recommend, before we lie down, not to employ our thoughts with any circumstances that can shock the imagination, or leave impressions that may disturb our rest. Every one knows that if our minds are much agitated or distressed in the day, we are likely to have a restless night, and therefore calmness and equanimity of mind should be cultivated to the utmost. Even when adverse and painful circumstances do arise, and arise they will to

every human being, much may be effected by resolution and firmness, towards enabling us to banish them from our minds at the time we retire to rest. It is an indisputable fact, that we may almost invariably obtain a great command over our thoughts, by an earnest endeavour perseveringly followed up. Most men are too prone to give way to anxiety and grief, which materially augments their strength and evil consequences.

If, notwithstanding attention to the preceding rules, sleep is still found to be unsound and unrefreshing, a brisk use of the flesh-brush before going to bed, or rising from the bed, and freely ventilating it, will often produce a very favourable change.

The employment of the flesh-brush I think of considerable service. There can be no doubt of its being a healthy custom, and as it greatly promotes the insensible perspiration, exercises the whole body, and repairs the animal spirits, it will be found to conduce to subsequent repose. The feet, particularly the soles,

the legs, joints, and region of the stomach, should be smartly rubbed, after having undressed, for ten, fifteen, or twenty minutes; then, walk about the room in that state for a few minutes, until you are cool, especially in the summer, and if in tolerable health. The celebrated Franklin had a custom of standing for a few moments after he was undressed, before he went to bed, and he believed that he thereby procured more refreshing sleep.* The flesh-brush is a valuable resource to those who have cold feet, as no person can sleep till they get warm, which this brush is eminently calculated to insure. An able writer on regimen states, that he

* Dr. Franklin's rules for sleeping well, and having pleasant dreams, are, 1. To eat moderately ; 2. To use thinner and more porous bed-clothes, which will suffer the perspirable matter more easily to pass through them ; and, 3. If you are awakened by any accident, and cannot easily sleep again, get out of bed, beat up and turn your pillow, shake the bed-clothes well, with at least twenty shakes, then throw the bed open, and leave it to cool ; in the meanwhile, walk about your chamber undressed, till your skin has had time to discharge its load, which it will do sooner, as the air may be drier and cooler: when you begin to find the cold air unpleasant, then return to your bed, and you will soon fall asleep, and your sleep will be sweet and pleasant.

The present author considers these very excellent rules.

knew a gentleman, upwards of eighty, who, having frequently found his sleep prevented by coldness of his feet, procured a large and hard brush, on which he stood, and rubbed his feet for some minutes, previous to going to bed; and this he found a much more effectual means of preventing the sense of coldness, and of conciliating sleep, than the application of any thing actually hot.

Another excellent practice, in case you have gone to bed and cannot sleep, is to rise, shake the bed well, draw the upper clothes down to the feet, and walk about the room till both you and the bed are freshened. Fuller states, that some hysteric people, who have lain half a night restless and disturbed, and without the least inclination to sleep, upon following this plan have found themselves quite altered, and able, when they went to bed again, to sleep well. If the individual has much heat or feverishness about him, it will be useful to go at the same time to a large wash-hand basin full of cold water, and wash freely.

Warm bathing of the feet also is sometimes found of great service in promoting sound sleep. On going to bed, the feet and legs may be bathed, for ten or fifteen minutes, in a narrow deep tub of warm water; and after they are wiped quite dry, a pair of worsted stockings or socks may be put on, or not, as is felt most agreeable. It has certainly a very soothing effect, and will often be found particularly beneficial to studious men, and old people, more especially in cold weather. Of course, it must not be continued for any length of time, but be used as a means of restoring natural rest, being discontinued immediately the object is gained.

The following miscellaneous rules respecting sleep deserve to be recorded in this place. 1. Many real or imaginary invalids lie long in bed in the morning, to make up for a deficiency of sleep in the night-time; but this ought not to be permitted, for the body must necessarily be enervated by long continuance in a hot and foul air. A little resolution will enable invalids to surmount this destruc-

tive habit. By rising early, and going to bed in due time, their sleep will become sound and refreshing, which otherwise they cannot expect. 2. It is an indispensable rule, that fat people should avoid soft beds, and should sleep little, and rise early, as the only chance they have of keeping their bulk within due bounds. 3. It often happens, that if a person has not slept well, he feels a weariness in the morning, which is best removed by exercise. 4. Such persons as are subject to cold feet, ought to have their legs better covered than the body, when they are in bed. 5. We should never suffer ourselves to doze, or fall asleep, before we go to bed, as it must greatly diminish the probability of sound repose, when we wish for sleep. 6. Reading in bed at night is a most pernicious custom; it strains the eyes, prevents sleep, and injures the health. 7. At large schools, where great numbers of children sleep together, the utmost attention ought to be paid to the nature of the beds, the bedding, the airiness of the apartment, and every thing that can pre-

vent the bad effects of crowding numbers together, and compelling them to breathe a confined and vitiated atmosphere. 8. Remember sleep is sound, sweet, and refreshing, according as the alimentary organs are easy, quiet, and clear.

SECTION IV.

OF THE GOVERNMENT OF THE PASSIONS.

It is certainly of great consequence, as it respects the health of the body, to possess a command over the passions of the mind. All physicians agree, that the passions, if given way to, have a strong tendency to exhaust the finest of the vital powers; to destroy, in particular, digestion and assimilation; to weaken the vigour of the heart, and the whole nervous system; and, by these means, to impede the important business of restoration. Mental agitation, therefore, must prove an active predisposing cause of disease; while, on the other hand, a calm contented disposition, and the exercise of a proper dominion over our passions and affections, is universally found to counteract the tendency to disorder arising from other causes, and is, consequently, a grand source of health. It is the more necessary to attend to the effects of the passions on the health of man, as

there is reason to believe, that any complaint arising from vehement agitation of mind, is more obstinate than that which is occasioned by violent corporeal agitations, excess in diet, and many other sources; because the latter are cured by rest and sleep, by temperance, &c. which have but little influence on the former.

It is not requisite to enter at great length into the present subject in this volume, and I shall, therefore, merely make a few further remarks on the influence of fear, and hope, in particular, on the well-being of our frame.

Fear has been correctly designated a base passion, and beneath the dignity of man. It robs him of power, reflection, resolution, judgment, and, in short, of all that pre-eminence which the human mind ought to enjoy. It has likewise great influence in occasioning and in aggravating diseases, and in preventing their cure.* It retards and disorders the circulation,

* Buffon, the naturalist, died a martyr to the stone, because the enlightened men he consulted, dissuaded him from the operation. They knew well that he was aware of the pain and danger attending it, and dreaded it much.

hinders respiration, deranges the secretions and excretions, especially those of the stomach, bowels, kidneys, and skin, and relaxes the whole body. It cannot, therefore, excite surprise, if this passion should often dispose to some very inveterate diseases, and frequently render those fatal which have arisen from other causes, and which an undaunted mind would have overcome. It has been frequently remarked, under the spread of epidemical disorders, that the fearful are much more readily infected by them than the courageous; because fear, by weakening the energy of the heart, and whole nervous system, enables the infectious matter to make that deep impression on the frame, which is in general necessary to the subsequent development of the actions of the epidemical distemper.

Hope, on the other hand,—

> " ——— prolongs our happier hour,
> Or deepest shades, that dimly low'r
> And blacken round our weary way,
> Gilds with a gleam of distant day,"*
>
> * Campbell's Pleasures of Hope.

The pleasures of hope have long been considered one of the greatest sources of human happiness, and it has been well observed by a great philosopher, that if man were deprived of hope and sleep, life would be no longer desirable.

When in ordinary health, and engaged in the common pursuits of life, hope is attended with many of the favourable effects of a fortunate event, without possessing its physical disadvantages; because the expectation of happiness does not affect us so excessively as its enjoyment. Besides, it is not liable to those interruptions, from which no human pleasure is exempt; it is employed principally with ideal or imaginary objects, and keeps within the bounds of moderation; and the sense of happiness associated with hope, very often far exceeds the satisfaction received from immediate enjoyment; consequently, it has frequently a more beneficial influence on health than good fortune realized.

It has likewise great influence on man when labouring under bodily disorder,

whether of an acute or chronic character, since its effects are diametrically opposite to those produced by fear. It exhilarates the spirits, and augments the energy of the heart and nervous system; moderates the pulse; renders the respiration fuller and freer; and accelerates the secretions. It is, consequently, found of great service in all disorders, to excite hope in the mind of the patient by all proper means.

Hufeland has most wisely added, if such are the advantages of hope, when restricted to objects of a sublunary nature, what may not be expected from the effects of that emotion, when it embraces higher objects? For it is the hopes of a happy immortality alone, that can make life of any real value, or render the burthens of it easy and supportable.

"His hand the good man fastens on the skies,
And bids earth roll, nor feels her idle whirl."

Young.

Joy is a very exhilarating, and, therefore, a beneficial passion, when indulged

in moderation; but when sudden or excessive, it is sometimes hurtful even to those in health, and more especially to the invalid. Any very gratifying intelligence should always be cautiously communicated to the sick and delicate.

Anger is universally known to be exceedingly injurious to health, and unfavourable to long life. In respect to it, I have merely to remind my readers, that every one may gain a great command over his angry passions by resolute exertion, and how certainly such command will contribute to our peace and happiness, I need not attempt to prove. A lady in the author's connexion, had been for many years noted for the excessive irritability of her temper, but being at length fully conscious of it, and resolved to conquer it, she followed up her resolution with so much decision and perseverance, as afterwards to become as remarkable for placidity as she had before been for the indulgence of irritability and anger.

The studious cultivation of the kind

and virtuous dispositions, are of as much importance to health and longevity, as they are to our advancement in life, and this fact cannot be too strongly enforced on the reader's attention. Kindness—

"Gives the flower of fleeting life its lustre and perfume,
And we are weeds without it."

SECTION V.

OF CLOTHING.

The chief rules in regard to clothes are, 1. That they should be made of soft or pliable materials, so as not to obstruct the free and easy motion of the limbs, or the circulation of the fluids in any part of the body. 2. They should be made of such a shape, as to be comfortable from their ease. 3. They ought not to be warmer than is necessary to preserve the body in a proper degree of temperature. 4. Our garments, more especially those next the skin, should be made of substances easily cleaned when necessary. 5. They should be suited to the constitution and age of each individual.

The four principal sources of human clothing are, *linen; cotton; wool,* and *silk.*

The use of *linen* cloth, as an inner garment, was long considered as a most fortunate discovery, at a time when, owing to

neglect of cleanliness, mankind were often extensively afflicted with a number of severe infectious disorders. It is undoubtedly a very useful article of clothing, although it cannot properly be compared, in this respect, to cotton, or wool. Its disadvantages are, that it is unfavourable to perspiration, and that it too readily retains the perspirable humours, and, therefore, if not very frequently changed, is apt to check the cutaneous excretion, as is proved by the disagreeable cooling sensation produced by a linen shirt, when much soiled.

Cotton may be considered as an intermediate substance between animal wool and linen. It increases warmth, and rather promotes perspiration, while it parts with the perspired humours it imbibes, more readily than linen. It is a species of garment which is cheap, and well calculated for various purposes. It seems to be peculiarly well adapted for the garments of women, or those who live much within doors, being light, pliable, and promotive of the excretion by the skin.

In hot climates, where perspiration abounds, cotton-cloth, for inner garments, is evidently superior, in point of wholesomeness, to linen. I cannot state my own opinions on this subject better, than by transcribing the words of Dr. James Johnson, whose great experience in the prevention and cure of the diseases of tropical climes, renders his remarks on the present point worthy of particular regard. He says :—

"When we enter the tropics, we must bid adieu to the luxury of linen—if what is both uncomfortable and unsafe, in those climates, can be styled a luxury. There are many substantial reasons for so doing. Cotton, from its slowness as a conductor of heat, is admirably adapted for the tropics. It affords a covering which is *cooler* than linen; inasmuch as it conducts more slowly the excess of external heat to our bodies. But this is not the only advantage, though a great one. When a *vicissitude* takes place, and the atmospherical temperature sinks suddenly far below that of the body, the cotton, still faithful to its trust, abstracts more slowly the heat from our bodies, and thus preserves a more steady equilibrium there. To all these must be added the

facility with which it absorbs the perspiration; while linen would feel quite wet, and, during the exposure to a breeze, under such circumstances, would often occasion a shiver, and be followed by dangerous consequences."*

Dr. Johnson further observes, and very correctly,—

"That woollen and cotton should be *warmer* than linen in low temperatures will be readily granted; but that they should be *cooler* in high temperatures will probably be much doubted. If the following easy experiment be tried, the result will decide the point in question. Let two beds be placed in the same room at Madras, we will say, when the thermometer stands at 90°; and let one be covered with a pair of blankets, the other with a pair of linen sheets, during the day. On removing both coverings in the evening, the bed on which were placed the blankets will be found *cool* and pleasant; the other uncomfortably warm. The reason is obvious. The linen readily transmitted the heat of the atmosphere to all parts of the subjacent bed; the woollen, on the contrary, as a non-conductor, prevented the bed from acquiring the atmospherical range of temperature, simply by obstructing the transmission of heat from without."

*Dr. Johnson on Tropical Climates, page 523.

This proves the superiority of flannel to linen, as an article of clothing in warm climates, under all circumstances, but it must not, therefore, be supposed, that flannel garments are equal to cotton, in such countries. In general, they are not, because they are heavier, and much too slow a conductor of heat *from* the body. Besides, the spiculæ of flannel prove too irritating there, for common use, and increase the action of the perspiratory vessels on the surface, where our great object is to moderate that process. In some situations in India, where the atmospheric temperature is liable to great and sudden changes, as in Ceylon, Bombay, and Canton, flannel is a safer covering than cotton, and Dr. Johnson says, is adopted in those places by many experienced and seasoned Europeans.

Woollen garments are of great service to the inhabitants of all cold and temperate climates, more especially where the vicissitudes of temperature are frequent and considerable. Flannel produces a moderate warmth, promotes perspiration,

readily absorbs the perspired humours, and easily parts with them again by evaporation, on account of the porous nature of the substance. These are great advantages, and render the use of flannel, in dress, of inestimable service to the valetudinary and the aged, and all those subject to any severe chronic disorder in the chest, bowels, &c. Hufeland has justly remarked, that it is a very salutary dress to those who have begun to decline in years; to all cold and phlegmatic temperaments; to all who lead a sedentary life; to individuals subject to cough or frequent colds, gout, diarrhœa, and partial congestions of blood; to all nervous patients, and convalescents from severe chronic disorders; to persons who are too susceptible of the impressions of the atmosphere; and lastly, in such climates and pursuits of life as are exposed to frequent and sudden changes in the weather.

Flannel is also well adapted for infants*

* The celebrated John Hunter's receipt for rearing healthy children, was, "plenty of milk, plenty of sleep, and *plenty of flannel*." He ought to have added, *plenty of exercise* in the open air, without which all the others will be unavailing.

and young children, especially in autumn and spring. Older children do not require it, and all persons under forty, in good health, should reserve it as a resource for their declining years. At this period, the *flannel age* may be said to begin, in general, at forty-four or five, from which time it becomes more and more useful and necessary, as years advance with us. But it ought not to be habitually worn at night. By far the best practice is, to throw it off in bed, unless from great debility or age, sufficient warmth cannot be insured by a moderate quantity of bed clothes.

Those who have cold legs and feet, are never comfortable nor healthy; they should, therefore, always wear worsted stockings and flannel drawers, which, especially if united with daily friction, will tend very much to promote a free and sufficient circulation in the lower limbs, and be greatly conducive to health. The weakly and sedentary ought to pay particular attention to this, for they cannot reasonably hope to preserve any tolerable

measure of health, without maintaining a free state of the skin, and the feet being one of the chief conductors of perspiration from the body, regard should constantly be had to promote so salutary a secretion.*

Flannel should be frequently changed, particularly if worn at night. When washed, it must be well shaken, and hung up to dry, if possible, in the open air. On no account, should it be dried near a fire, as that encourages shrinking.

*The present general use of cotton and silk stockings is liable to many strong objections. This is another point in which we have departed from the wise practices of our forefathers, to the prejudice of our health and longevity. Stowe informs us, that "King Henry the Eighth did weare only cloth hose, or hose cut out of ell-broad taffety." Queen Elizabeth was the first royal personage in this kingdom who wore any other than cloth stockings. "In the second year of Queen Elizabeth, 1560, (says Stowe) her silke woman, Mrs. Mountague, presented Her Majestie, for a new yeere's gift, *a paire of black knit silk stockings*, the which, after a few days' wearing, pleased her Highnesse so well, that she sent for Mistris Mountague, and asked her where she had them, and if she could help her to any more, who answered her, saying, 'I made them very carefully of purpose only for your Majestie, and seeing these please you so well, I will presently set more in hand.' 'Do so, (quoth the Queen,) for indeed I like silk stockings so well, because they are pleasant, fine, and delicate, that henceforth I will wear no more *cloth stockings*.'"

Silk is better calculated for an outer, than an inner garment, and for habits of elegance and of show, than of real utility.

All kinds of *fur* are objectionable, when worn next the skin, as they stimulate too much, and do not allow the perspired matter to escape. A flannel *pectoral* or *stomacher* is much to be preferred to one made with fur. Dressed hare skins, as they are called, are, therefore, not so valuable as a covering for the chest and stomach, in winter, as a clean layer of porous flannel.

Chamois leather is often found a very useful article of clothing, more particularly for those troubled with rheumatism, or anomalous chronic pains in different parts of the frame. Dr. Uwins, of Bedford Row, has found an under waistcoat of this article of much service in his practice, and has very strenuously urged its adoption by all rheumatic subjects, from September or October to May, inclusive. This leather washes like linen, only it must not be washed in hot water.

For the first day or two, it usually feels cold and uncomfortable, but soon becomes, to many persons, more comfortable than flannel. If the lower extremities of the body are much affected with rheumatism, drawers also, made of the same material, should be worn. It is proper to have several sets, and to change them frequently.* The following case affords a satisfactory illustration of the good effects of this leather, in fixed rheumatic pains.

CASE XIII.

"A noble Lord has recently communicated to me, a simple mode, by which he was cured of a most severe rheumatic complaint.

He had suffered incessant pain in his hips and shoulders, for almost thirteen months, particularly at night, and could not walk without the support of sticks, or some person's arm. He cannot recollect how it happened, but it came on gradually. After trying innumerable other remedies without success, he was advised by a most respectable member of the medical profession, to put on both

* The price is about sixteen shillings a set.

drawers and an under waistcoat of chamois leather, which, in a very few days, gave him so much relief, that he could walk and even ride, without pain; and in the course of three weeks, at the most, he was entirely cured. This was in the year 1807-8, and he has had no return of the complaint since.

The drawers were tied at the ancles; but that is not necessary, unless the lower joint of the leg is affected with rheumatism. The under waistcoat had sleeves. It lapped over a little; had no buttons; but was tied with strings in the front. He left off wearing the drawers and under waistcoat about three years ago, (Anno 1812), in order to preserve them as a resource, in case the rheumatism should return. They were left off in the spring, and a flannel waistcoat and cotton drawers, used in their stead, which he had commonly worn before the rheumatism had attacked him.

He has recommended it to a great many people of all ages, and with almost invariable success. There is at this moment, in the house with him, a gentleman of seventy years of age, who has been entirely relieved by it, though he had suffered many years from rheumatism." *

In regard to the form of the various

* Sir John Sinclair's Code of Health, p. 523.

articles of dress, I have chiefly to observe, that they ought to be easy, and free from all constriction. The covering of the head should invariably be light and cool; and the neck-cloth and garters, in particular, ought to be worn loose.

Those who are desirous of avoiding corns, or of curing them when produced, as well as of walking with ease or elegance, must have their shoes adapted to the natural shape of the foot, and sufficiently large to be perfectly easy, without being so big as to prevent a firm step. Shoes that require the assistance of an instrument, to put the feet into them, are always too small. Shoes with a thick sole are far the best for active walking exercise.* These articles ought to be made with leather that is impervious to water. Some say the "*Currier's Dubbing*" is the best nourisher of leather, and renders it as soft as satin, and imper-

* The best slippers are a pair of thick old shoes, or such as are made stout, and on purpose; the worst, those of plaited cloth. Dr. Kitchener has very correctly remarked, that slippers of plaited cloth make the feet tender, and are a hotter covering for them in the house, than we give them when we go out.

vious to wet. Dr. Willich suggests the following composition for making the leather water-proof. One pint of drying oil, two ounces of yellow wax, two ounces of spirit of turpentine, and half an ounce of Burgundy pitch, should be carefully melted together over a slow fire. If the smell of the turpentine or pitch is unpleasant, add a few drachms of some cheap essential oil, as of lavender, juniper, &c. With this composition new shoes and boots are rubbed, either in the sun, or at some distance from a fire, with a sponge or soft brush: This operation is to be repeated as often as they become dry, until they are fully saturated. In this manner, the leather becomes impenetrable by water, and so soft and pliable, that it never shrivels nor grows hard or inflexible.

Lord Bacon has well observed, that great store of clothes, either upon the bed, or the back, relaxes the body, but at the present day we are not much in danger, in this country, of wearing too many clothes. The fair sex, in particular, generally err on the opposite extreme.

It should be remembered that the more sedentary men become in their habits and pursuits, the more do they stand in need of warm clothing, especially in a changeable climate, and as we are now very generally much more sedentary than our forefathers, so ought we to clothe somewhat warmer, whereas the fact is, we in general clothe lighter, particularly about the feet and legs.

There can be no reasonable objection to our adapting our dress to the season of the year, although we ought in winter to maintain a proper degree of warmth by exercise, and in summer due coolness by great temperance, rather than by excess of clothing in the former case, or by a deficiency in the latter. Some have maintained that our clothing should be nearly the same at all seasons, but nature teaches us to clothe lightly in the summer. No one, however, should ever make any alteration in their winter's dress till May is out, and we ought to resume it again on the last day of August. October and November, February and March, are the

months which demand in general the warmest clothing, on account of the great and sudden vicissitudes of temperature so commonly felt at those periods.

SECTION IV.

OF TRAINING FOR HEALTH.

It is well known that horses which are to run a race, and men who are about to contest in boxing, or in battle, are always previously trained, for the purpose of gaining wind and strength; and it is equally well known, that during this process of training, they become in reality much more powerful, and astonishingly improve in health. I have nothing to do here with training for running a race, or fighting a battle, but it is reasonable to suppose, that a process which is universally found of so much service to the bodies of men and animals, when resorted to for the purposes of public contest, would be of equal advantage when employed with a view of promoting the general health and strength, in persons following the ordinary pursuits of mankind; and as experience has fully realized this expectation, I think it cannot fail to be beneficial to my readers

to explain the art of training for health.* Indeed, training mainly consists in combining the most correct diet, with daily vigorous exercise in the open air, and therefore the present section will present, at one view, and in a small space, that diet and regimen which is most powerfully influential both in the preservation and restoration of health. It will be extracting, as it were, the marrow of what has been advanced in the preceding sections, for the more ready and perfect instruction of, at least, many of my readers.

The art of training for health, consists, then, in resorting with steadiness to a correct use of solid and liquid food, exercise, air, and sleep, a little preparative medicine being also generally necessary.

* "The advantages of the training system are not confined to pedestrians and pugilists alone—they extend to every man; and were training generally introduced instead of medicines, as an expedient for the prevention and cure of diseases, its beneficial consequences would promote his happiness, and prolong his life."

Dr. Kitchiner on Long Life.

"Our health, vigour, and activity, must depend on regimen and exercise; or, in other words, upon the observance of those rules which constitute the theory of the training process."

Captain Barclay on Training, p. 239.

1. *Preparative Medicines.* In the commencement of training, it is, for the most part, desirable to take a gentle emetic of from sixteen to twenty grains of ipecacuan powder, in water, and two days after a mild purge, for which purpose I think there can be hardly anything superior, in this instance, to two grains of calomel and five grains of compound extract of colocynth, made into a pill, and taken at bed-time. When the habit is gross, and the secretions particularly unhealthy, this pill may be advantageously repeated to the second or third time, at intervals of a week; but if these circumstances are not present, one purge will suffice. The emetic and purgative now ordered, have the effect of speedily clearing the stomach and bowels, and thus getting rid of any accumulations that may be oppressing those important organs.

2. *Solid Food.* The diet of persons when trained, must be extremely simple, consisting almost exclusively of animal food, stale bread or biscuit, and the most digestible vegetables. Veal and pork are never

given, and lamb but seldom. Beef, mutton, and venison, are the chief meats. Most men will live longer on beef, without change, than on any other kind of animal food, and it is the most nourishing*; but mutton and venison are reckoned to be most easily digested. The meat must always be fresh, for if salted, it would occasion indigestion and thirst. Fat, being of a greasy nature, fouls the stomach, and must be avoided; but the lean of fat meat is the best. Sometimes, for a change, fowl, rabbit, or partridge, may be allowed once a week. The legs of fowls, being very sinewy, are much approved. No fish whatever is allowed, being indigestible, and deficient in point of nourishment. No cheese is given on any account, and but very little butter, sometimes none. When a good measure of strength has been acquired, eggs may be permitted, very lightly boiled, but not more than

* The following fact proves the nutritious qualities of beef. Humphries, the pugilist, was trained by Ripsham, the keeper of the jail at Ipswich. He was sweated in bed, and afterwards twice physicked. He was weighed once a day, and at first fed on beef; but as on that food he got too much flesh, they were obliged to change it to mutton. *Sinclair's Code of Health.*

in the day. A little turnip, French
n, or potatoe, may be taken after the
vidual has been in training for three
our weeks, or more, and the tone of
digestive organs is improved; but
y must be laid aside if they create the
htest uneasiness. Soft or new bread
ever given. Biscuit is very proper,
, indeed, in most instances, to be pre-
ed even to stale bread.

ies or puddings are never permitted,
any kind of pastry. The only condi-
nts allowed are salt and vinegar. Salt
y be taken in moderate quantity, but
ays short of producing thirst. A little
egar also is not objectionable, especially
en there is a tendency to corpulence.
s to the mode of dressing the animal
d taken, it is far better to have it
iled than roasted or boiled, by either
which nutriment is lost, and particu-
y by boiling. Care should be taken
to have the meat too much done.

The quantity of solid food indulged in
st be very moderate. This must, in
ne measure, depend on the circum-

stances of age, strength of the digestive powers, and nature of the indisposition present, but, as a general rule, the solid food ought not to exceed sixteen or seventeen ounces a day. See page 127. The number of meals, and times of eating, must be regulated according to the principles laid down at page 102.

3. *Liquid Food.* It is an established rule in training, that the less we drink, in moderation, the better; because too much liquid dilutes the gastric juice, in the stomach, (the grand agent in digestion,) and encourages soft unhealthy flesh. Much drinking also promotes undue perspiration, which is weakening, if not occasioned by exercise. On no account, must the quantity of three English pints, during the whole day, be exceeded, taken at breakfast and dinner, and a little after supper. In many instances, six and twenty ounces is as much as is proper, (page 127.) For breakfast and tea, the liquids may consist of tea, or milk; and at dinner and supper, home-brewed malt liquor, or wine. In training merely for strength, good old malt liquor, drawn from the cask, is

reckoned the best drink at dinner and supper; but in training for health, malt liquor is not always found to agree. The patient must, in a degree, be guided by his own feelings, on this and some other points, although I believe home-brewed malt liquor will, in most cases, be found of much service, particularly after a month's close training. Jackson, the celebrated trainer, affirms, "if any person accustomed to drink wine, would try malt liquor for a month, he would find himself much the better for it." Sometimes malt liquor may be advantageously taken with a toast in it. The quantity must not exceed half a pint at dinner, and a third of a pint at supper. If the person trained insists on wine, white wine is preferred to red; and two or three glasses may be allowed after dinner, but none after supper. It may be taken diluted with water, or not, as it is found to agree best.* Spirits are never permitted on any consideration whatever, not even with water.

* In case of training for health, under any severe chronic disease, I think wine, in any quantity, is very generally inadmissible.

Liquor is never given before meals, unless in cases of extreme thirst. Under thirst, the liquor should never be taken in great draughts, but by mouthfuls, which quenches the thirst better, the chief object required.

No fluid is ever taken hot. The water drank should be as soft as possible. Toast and water is very proper.*

4. *Exercise.* Trained men should always begin their exercise early in the morning: in summer, at six, and in winter, at half-past seven, or as soon as it is light. The best exercises are walking, riding on horseback, friction with the flesh-brush, fencing, quoits, tennis, playing at shuttle-cock, and the use of the dumb-bells. These are used alternately as convenience serves, but no day must be suffered to pass, without one of the first two being used as an out-door exercise, and also one of the remainder as an exercise at home. The time of exercise abroad is

* Race-horses get drink twice a day only. Soft water is preferred; and it is given cold and never hot, except during physic or illness. In training game-cocks, the water is got of as soft a quality as possible, and a little toasted bread is put into it, to make it still softer.

never to be less than four hours, and should generally be from five to six hours, taken at twice or thrice; the period of the in-door exercise being at least one or two hours. If a muscular man, during his training, gets much thinner, his exercise must be reduced; but if he gets fatter, or more muscular, it is a proof that it agrees with him.

Captain Barclay says, "Beside his usual or regular exercise, a person under training ought to employ himself in the intervals in every kind of exertion which tends to activity, such as cricket, bowls, throwing quoits, &c., that during the whole day, both body and mind may be constantly occupied."*

The great object of exercise is to increase and regulate all the secretions and excretions, more particularly the secretions of the stomach, intestines, and liver, and the excretions by the skin and kidneys; to augment the size and power of the muscles; to impart tone to the nerves; and where the habit is corpulent, to take

* On Training, page 231.

off the superfluities of flesh and fat; to reduce the quantity of blood, and to make it thinner and lighter. By these means, a person gains a good appetite, a quick digestion, serenity of mind, and a surprising increase of wind and strength.

Exercise, on the whole, is undoubtedly the most essential branch of training. It is a general rule, that *perspiration from exercise never weakens.*

The union, however, of vigorous exercise and pure air, is the grand secret for the acquisition of strength. Diet itself seems to be but a secondary consideration, provided the quantity of food is small.

5. *Air.* The necessity of pure air is uniformly insisted on in every kind of training. The more man is in the open air, the firmer his flesh becomes; and trained persons soon learn almost to disregard the weather, only they must change their clothes if wet. Rising early in the morning is considered indispensable: in summer, at five or six, and in winter, at seven.

Among the ancients, to be exercised in a pure salubrious air, was deemed of es-

sential importance. The principal schools of the Roman Athletæ, were accordingly established at Capua and Ravenna, places, the air of which was reckoned the most pure and healthy of any in Italy. They carried on their exercises in the open air, in all sorts of weather, the changes of which soon ceased to affect them.

Under training for health, it is indispensable to breathe the open air for four hours a day, at least.

6. *Sleep.* Persons trained for health and strength, ought to go to bed early, (at ten o'clock precisely,) and are allowed from seven to eight hours sleep. As they take a great deal of exercise, they require rest, and eight hours sleep may be safely allowed, but very rarely more. Under a proper system of training, the sleep is sound, almost unbroken, and therefore exceedingly refreshing.

In addition to the preceding rules, it should be observed, that great cleanliness of the person is necessary, and therefore bathing is recommended. But bathing either in tepid or cold water, has also

considerable effect in strengthening the body, and may, consequently, be used twice or thrice a week, when practicable. For very weakly persons, the tepid bath at about 93°, brought down gradually to 90°, is to be preferred, especially in cold weather; but stronger patients may use the cold bath. The cold or tepid shower bath is very useful. When the bath cannot be had, I recommend sponging the whole body with water (the chill hardly taken off), every morning, on getting up, following it quickly with a good deal of rubbing with a hard towel.

Keeping the feet perfectly dry at all times is highly necessary.

Effects of training on the body. All my readers will readily perceive, that the training now described must invariably have great and important effects on every part of the body, and especially on the head, the stomach, the lungs, the skin, the bones, and the nerves.

In regard to the head, a man, in the best ordinary health, when he strikes or receives a few blows, becomes giddy;

but this defect is corrected in the course of training, and giddiness is prevented. Severe blows on the head are also soon recovered.

Its beneficial effects on the stomach and lungs are remarkable. The appetite is sharpened, and the digestive powers so improved, that all sense of uneasiness and oppression at the stomach are removed by it, and the food taken is digested easily and perfectly. Jackson, the trainer, states that a course of training is an effectual remedy for bilious complaints.

By improving the condition of the lungs, training insures a free and powerful respiration, which is a sign of good health, and is essential to a fresh colour of the face, to lively spirits, to cheerful feelings, and to the healthy and vigorous actions of the body. The chest is made much more open by it. Boxers when trained, surprisingly *improve their wind*, as it is said; that is, they are enabled to draw a deeper inspiration, to hold their breath longer, and to recover it sooner, after it is in a manner lost.

It has likewise a great influence on the skin, which it renders clear, smooth, well-coloured, and elastic, although formerly subject to eruptions. Even the skin of a fat person, when he grows leaner under training, does not hang loose about him, but becomes elastic and tight.

On the bones and nerves training has considerable effect. The former become much harder and tougher; indeed, it is well known, that the bones of race horses, for example, are as hard as ivory, and that the bones of boxers are very seldom broken, even under the violent blows they receive. The nerves are most effectually strengthened by it, so much so, that it is asserted, that no trained person was ever known to become paralytic, or to continue under nervous depression.

The shape likewise is greatly improved; the belly in particular is reduced, which is absolutely necessary for a freer respiration. The chest is expanded, and different muscles and parts which are unduly enlarged, are reduced, while those which are preternaturally small, gain an increase of bulk. We have a proof of this in the

fact, that persons who are regularly and constantly exercised, as fencing masters, &c. retain their appearance, carriage, and shape, to the last, which is much in favour both of their health and longevity.

Such is the nature, and such the effects of training. By the processes described, as an able writer correctly remarks, the nature of the human frame is totally altered, and in the space of a few months, the form, the character, and the powers of the body are completely changed, from gross to lean, from weakness to vigorous health, and from a breathless and bloated carcass, to one active and untiring; and thus, the very same individual, who but a few months before, became giddy and breathless, on the least exertion, has his health not only improved, but frequently is enabled to run many miles, with the fleetness of a greyhound, or, in a shortness of time hardly to be credited, to walk above a hundred.*

* "The training art has arrived to such great perfection in this country, as to throw new lights on the physical changes which the body is capable of receiving from preventive measures, even

But these effects are not only remarkable, they are also permanent. In training for wrestling or fighting, indeed, men are brought to the very top of their condition, as it is termed, in a very short period, by carrying the process to an extreme, and it is found they cannot be kept in that condition for any length of time; but in training for health, our objects are different, and, therefore, the mode of proceeding is in some measure different; we proceed in as certain, though a less forcible manner, in order that the effects should be both great and lasting.

In conclusion, I would express my hope, that the hints here given respecting the uses of training, may be found of advantage, not only by my unprofessional, but likewise my professional readers. Medical men pay far too little attention to it in the treatment of chronic diseases.

in advanced years. Its vigour is thereby augmented, the respiration improved, by lessening the size of the belly, and the skin cleared from its impurities, and so much improved in elasticity, colour and tone, in the space of two or three months, as to denote the perfection of the art."

Dr. Jameson on the Changes of the Human Body, p. 342.

CHAP. III.

OF MISCELLANEOUS SUBJECTS CONNECTED WITH HEALTH.

SECTION I.

OF THE REDUCTION OF CORPULENCE.

I shall here bring before the reader at one view, the most safe and effectual methods of reducing any inordinate or disagreeable corporeal bulk. My principal reason for treating on this subject distinctly, is for the benefit of my fair readers in the higher ranks of life, many of whom ruin their health and complexion, in order to gain a slenderness of waist, and what they consider beauty of form. It behoves them, however, to remember, that physical beauty is necessarily associated with the flowing curve, and the

crescent, and, therefore, that to the perfection of beauty in the female figure, the existence of some degree of *embonpoint*, is absolutely necessary. Nature abhors, so to speak, the straight line and the angle, so commonly combined with leanness, almost as much as she does a vacuum.

It may be remarked here, that absolute *corpulency* certainly lessens the probability of longevity very much. In the middle period of life, persons who indulge in much animal food, or other very nutritious aliment, and lead inactive lives, are liable to have the functions of the vital organs so greatly disturbed with fat, as to lead to premature dissolution.

Much sleep, much food, and little exercise, are the principal things which make animals grow fat, and, therefore, the means of preventing or reducing corpulence depends chiefly on a proper regulation of these points.

Old Parr's rule was, "If you are inclined to get fat, keep your eyes open and your mouth shut." Or, in other words,

be moderate both in your sleep and diet. The sleep of such as are corpulent, ought to be very moderate, that is, about five hours and a half, and never exceeding six hours, in the twenty-four. They should always sleep on a hard mattress, and the room ought to be as airy as possible.

The quantity of food must likewise be lessened, more especially in the liquid form. It is not requisite for me to state the exact quantities that ought to be taken, for every individual will be able to ascertain that for himself; but they should rarely, if ever, exceed the amount mentioned, as proper for the weakly and sedentary, at page 127. Indeed, the liquids should, if possible, be reduced as low as 16 or 20 ounces in the day, and it is certain the food ought not to be of so nourishing a quality as is there allowed. Malt liquors, sweet wine, and fresh beef, are very fattening. Milk, eggs, butter, and sugar, are also considered productive of fat. Of solid food, the best articles for the corpulent, are fish, particularly white fish boiled, poultry, and vegetables, the

last of which, of course, includes bread and fruit. No preserved fruit, however, is allowed. Of liquid aliment, the best is cyder, perry, light acidulous wines, tea, and water. The wines to be preferred are, Red Hermitage, Rhenish, Hock, Barsac, Claret, and Champagne; but those who can do without wine will be most successful in their plan of reduction. Cream of tartar and water forms a useful drink for the corpulent, during the summer.

But exercise is, in general, one of the most effectual and agreeable methods of reducing corpulence. In the use of athletic exercises, the most corpulent men invariably become much thinner, while their flesh is rendered firmer.* When Cribb went to Scotland, to be trained for his great contest with Molineaux, he weighed sixteen stone, (fourteen pounds to the stone); but before he fought, he was reduced forty-one pounds.

* Four game cocks, brought to their athletic weight by training exercises, &c. were killed, and found to be very full of blood, with large hearts, large muscles, *and no fat.*

A gentleman was reduced by training,* from nineteen stone to sixteen stone four pounds. He had before a fulness of blood in his head, but by training was restored to perfect health. At page 212, I have related the case of a gouty gentleman, who, by exercise, reduced an uncommon degree of corpulence, until he became of a very moderate and even handsome figure. The exercise of walking also is favourable to leanness. By his thousand mile match, Captain Barclay was reduced, from thirteen stone seven pounds, to eleven stone two pounds; and a merchant in Leith succeeded in reducing corpulency, by going every morning to the top of Arthur's seat, near Edinburgh, a hill about 814 feet above the level of the sea.

"Mr. Rye, *(says Dr. Robinson, in Observations on the Discharges of the Human Body, p.* 84,*)* was a strong, well-set, corpulent man, of a sanguine complexion; by a brisk walk for one hour before break-

* It will be recollected, that I have already stated exercise in the open air to be the chief branch of the training art.

fast he threw off, by insensible perspiration, one pound of increased weight; by a walk of three hours, he threw off two pounds of increased weight."

The celebrated Dr. Cheyne, of London, in a state of bad health from growing to the enormous size of thirty-two stone, at the age of thirty-five, and requiring the entire side of his carriage to open as a door to admit him, reduced himself ten stone by change of diet and exercise, and afterwards enjoyed good health merely by a strict adherence to the use of milk, vegetable food, and active exercise, until the time of his death, in the year 1742, at the advanced age of seventy-three.

On the contrary, Mr. Bright, of Essex, who partook largely of nourishing food, and malt liquors, weighed, at the age of twenty-five, forty-one stone, and neglecting his active exercise, for three years, he died at the early age of thirty. The famous Daniel Lambert ate and slept moderately, drank only water, and took much exercise in his earlier years, but paying less attention to exercise and

regimen, some years before his death, he died suddenly of excessive corpulency in the year 1809, at the age of forty, when he was found to weigh fifty-two stone, or seven hundred and thirty-nine pounds!

All the modes of exercise recommended under the section on that subject, at page 174, may be alternately resorted to by corpulent persons with great advantage, and among these, friction ought to claim particular notice, as a domestic exercise, from all ladies who are desirous of reducing their *embonpoint*. It must be used by the individual herself, for half an hour or more, twice a day, being carried successively over every part of the frame, and especially over the joints. Friction perseveringly employed over the legs, ankles and feet, will have considerable effect in reducing the size, and improving the form of those parts. Dr. Cheyne has correctly observed, that almost every body knows what well currying (a species of friction) will do to horses, in making them sleek and gay, lively and active, insomuch that it is equivalent to half their food;

and we are certain that what this mode of exercise will do in horses, it will also do in man, because the effects of such a practice must be the same on all animal bodies.

There are two points, in particular, in which exercise, as a means of reducing corpulence, has a great and manifest superiority over all other methods of reduction, which are, the improvement it effects in the form, in point of beauty, and the beneficial change it induces in the skin.

In regard to the first of these points, it is worthy of particular remark, that since exercise is one of the most natural and most effectual means of strengthening the whole frame, and of improving the general health, both of which it effects by promoting a due circulation, perpetual absorption, and correct and sufficient secretions, and thus removing the redundancies of fat and flesh, and supplying their deficiencies, it must, consequently, alter and amend the form of various parts, independently of the mere reduction of the quantity of fat. For a slight consideration

of these facts will enable every one to perceive, that the natural tendency of so salutary an expedient as exercise, must ever be, not only to reduce the quantity of fat generally, but to render what does remain firmer, to distribute it equally in its proper situations,* and also to augment the size of the muscular parts of the system, which are in this respect always deficient in corpulent habits, and indeed in all who are sedentary, until they attain their proper magnitude and form, whereby the symmetry of the figure will be proportionately increased. It is from this cause, that well currying so invariably improves the figure of horses, as well as their health.

Another circumstance adverted to above, is the favourable change exercise induces in the skin, which is an improvement much desired by all persons, especially the fair sex, and which cannot be so certainly and satisfactorily obtained by any other means whatsoever. As I have remarked under

* See page 27.

Training, the skin is thereby rendered clear, smooth, well-coloured, and elastic.

In regard to the medicines sometimes used to reduce corpulence, the chief of which are acids, soap, and foxglove, they are neither so safe, nor so efficacious, as the preceding measures. In small quantities, they have scarcely any effect in the reduction of size, and if employed in large doses, they inevitably injure the health, and, when long continued, often ruin it. Indeed, vinegar and other acids will frequently augment the general bulk, by proving pernicious to the health; at which we cannot be surprised, when we reflect, that excessive fatness is often dependent on some derangement in the constitution, and that then, whatever increases this derangement very commonly augments the size. It may be laid down as a rule, that, under all circumstances, a small quantity of food and sleep, and plenty of active exercise, are by far the most certain and efficacious, as well as the most agreeable means, of reducing inordinate corporeal bulk; and there can be no doubt, that if

persons were fully aware of the value and efficacy of these methods, they would never for a moment think of resorting to any medicine, for the accomplishment of this purpose.

SECTION II.

MAXIMS OF HEALTH FOR THE BILIOUS AND NERVOUS.

Bilious and nervous disorders are very generally so closely connected in respect to their orginal causes, and are so commonly found in the same individual, that we may properly couple them under the present section.

1. Bilious disorder is in general founded simply in derangement of the stomach and intestines. These organs are of the first importance in the human economy; they are, so to speak, the great arbiters of health and disease, of life and death; they hold almost every organ and function in the body under a strict and necessary dependence; consequently, when weakened and deranged, a numerous train of uneasy or distressing sensations, and unhealthy symptoms take place, and among the latter, acidity of stomach, and de-

rangement of the biliary secretion, are often prominent. Hence arises the term *bilious*.*

2. Such being the importance and extensive connexion of the stomach and bowels, we cannot be surprised to find their disorder give rise to great and distressing nervous irritability. The majority of nervous affections centre in an unhealthy condition of these organs.

3. A great fuss is now made about the liver, but its secretion is entirely under the control of the stomach and first intestines, and the most certain and effectual mode of insuring a healthy flow of bile, is to keep the stomach and small intestines in good order. Nervous disorder is most

* Shakspeare has most happily described the importance of the stomach—

"It is the store-house, and the shop
Of the whole body. True it is,
That it receives the general food at first;
But all the cranks and offices of man,
The strongest nerves, and small inferior veins,
From it receive that natural competence
Whereby they live."

Coriolanus, Act 1, *Scene* 1.

effectually prevented or cured by the same means. To bring these organs into a healthy state, and to keep them so—

4. Carefully observe the diet, in point of quality, as directed at pages 11, 14, 20, and the following pages; and in regard to quantity, as recommended at page 127.

5. Eat slowly, and masticate your food well.

6. Take four hours exercise in the open air daily, by riding on horseback, or walking; and when in the house, be as much in motion as possible.

7. Use some active domestic exercise, as the shuttle-cock, or dumb bells, or some gymnastic exercise, as fencing, throwing the discus, or playing at foot-ball, for one hour, at least, daily, in addition to your riding or walking.

8. Employ friction over the region of the stomach and bowels, every morning on rising, and every night on going to bed, for ten minutes or more at each time.

9. Sponge yourself all over every morning, on first getting out of bed; in the summer, with cold water, in the winter,

with tepid water. Rub yourself dry quickly after it with a very rough towel.

10. Shun the deleterious air of all populous towns.

11. Go to bed at ten o'clock, and rise at six, winter and summer.

12. Keep the feet warm at all times, and the head cool—

13. And the bowels regular; but be sure *not to teaze them.* All that is necessary, is to have the bowels comfortably exonerated once a day, or once in two days. Try to do this by diet, friction, and exercise. If these means fail, take the aperient pill, No. 2, occasionally, at bed-time.—But remember that diet, properly resorted to, will, in the majority of instances, be quite equal to insuring a regular movement of the bowels. Of this I am fully persuaded.

14. One of the best medicines for improving the tone of the stomach and bowels, and promoting healthy bile, is the pill No. 1.

15. If that does not succeed, half a pint of compound decoction of sarsaparilla,

twice a day, with the pill No. 3, every night, will often effect great things.

16. For acidity on the stomach, or occasional depression of spirits, eight or ten grains of the carbonate of ammonia, in two ounces of camphor mixture, and a tea-spoonful of tincture of cardamoms, is excellent. Or the ammonia may be made into pills.

17. In regard to medicine, there are few things more necessary than for you to avoid taking much mercury. A little mercury, combined with antimonials, may be sometimes very useful, but much of it can rarely fail to be destructive. Always distrust the man who proposes or aims at salivation, and never submit to it, until you have had a consultation with, at least, two other professional men of ability, who are known not to be blindly attached to this infamous practice.

18. If your case be one of *protracted and severe* indigestion, bilious or nervous disorder, never forget that your chief dependence for relief and cure, ought to be on strict diet, constant exercise, and early

rising. Here medicine is of secondary importance, although often highly beneficial. In such a state, the maxims 4, 5, 6, 7, 8, and 9, in particular, should claim your especial regard. The more severe and protracted the malady, the more strongly are patients disposed to seek relief from medicine, and to neglect diet and regimen as of very inferior value: the reverse of this is the high road to health.

I cannot conceive of any case of bilious or nervous disorder, whatever may be its kind or peculiar circumstances, which will not be greatly benefited by attention to the preceding rules, and I know, from a good deal of experience, that in the majority of instances it will be perfectly successful.*

It is proper, however, before quitting this subject, to observe, that some of the most severe and protracted cases of bilious and nervous disorder originate in a contracted state of the last intestine, which

* For further information on the subjects of indigestion, bilious and liver complaints, see Dr. Graham's *Modern Domestic Medicine*, where they are fully treated of.

forms a disease technically termed *stricture of the rectum*. I can do no more here than throw out this as a hint, which may prove of great use to many invalids; for stricture of the rectum often exists for years undiscovered, (see an illustration in the case of the celebrated Talma, at page 551 of Graham's Domestic Medicine, third edition), and it is certain that the patient whose nervous symptoms depend on it, can never gain efficient relief until it is discovered, and the means proper for its removal are resorted to. Within the last eight months, I have met with no less than four cases of high nervous irritability and severe indigestion, almost solely depending on this cause, which cases had been of several years standing, and in which the patients had failed to gain any satisfactory advantage, although many eminent practitioners had been fairly tried. Here the means previously used had failed, because the real seat of the disorder had not been detected; but as soon as it was discovered, and proper measures employed, the relief that followed was great and permanent.

SECTION III.

MAXIMS OF HEALTH FOR THE CONSUMPTIVE.

1. Both the prevention and cure of consumption mainly depend on maintaining and increasing the general strength or energies of the frame. You should, therefore, ever bear in mind, that under a disposition to this disease, if you can preserve the general tone of the system unimpaired, you are in a state of security, and that, on the other hand, whatever tends to lower this, threatens your very existence. When actually labouring under an attack of this malady, the same principles must be strictly adhered to; any other can hardly fail to be fatal. Consequently, all debilitating measures must be studiously avoided, even where there appears to be some inflammatory action present. If, under such circumstances, a lowering plan be necessary, it must never be carried beyond the exigency of the case,

and ought to be dropped immediately the object is accomplished.

2. In accordance with these principles, the diet of the consumptive should always be nutritious, but unirritating; their exercises should be constant and active, and carried on in the open air; their clothing must be warm, but not oppressive; and their sleep in sufficient quantity.

3. The diet of the consumptively disposed, should consist chiefly of the more perfect meats, as beef, mutton, venison, game, &c. with oysters, eggs, milk, bread, biscuit, and good malt liquor. Home-brewed malt liquor, of a moderate strength and body, is far better in this case than wine. When the disease has actually commenced, the diet must be regulated by the physician, according to the stage and circumstances of the case, but it should then almost invariably be very nutritious, although unstimulating.

4. Remember that daily active exercise is of the first importance, both as it respects the prevention and cure of this complaint. Every part of the body must be exercised,

but more especially the arms, shoulders, and chest,* for which purpose, the use of the dumb-bells, lead exercise, shuttle-cock, and throwing the discus, are peculiarly valuable. Never forget the extraordinary power of riding in the cure of this disease, (see page 185). Many consumptive invalids are annually lost through dependence on medicine, and removal to a foreign climate, who would be saved by *constant* exercise, and Penzance or Devon air, combined with suitable medical attention.

5. Sponge the whole surface of the body

* It should be a grand object with all those disposed to consumption, to enlarge the capacity of the chest, which may certainly be done by suitable exercises, perseveringly employed. It is proper to remark here, that the size of the lungs depends on that of the chest, and the quantity of nourishment received by an animal, depends in a great measure upon the size of the lungs; because as the blood is the pabulum of life, and it all passes through the lungs in the course of circulation, before it can be conveyed to the different parts of the body, the animal, therefore, can receive no more of this invigorating fluid than the capacity of the lungs is capable of transmitting. Hence the broadest chested men are always the strongest; and it is observed, that those animals which have the broadest chests uniformly get the soonest fat, from the greater quantity of nourishment they receive.

every morning, with lukewarm water, or vinegar and water. Do it quickly, and follow it with a good deal of rubbing with a rough towel. Sometimes it is a good plan, after this has been done, and you are well clothed on the inferior parts of the body, to continue sponging the neck and chest for ten minutes. Dr. Stewart, of Erskine, has found this very useful in many cases, both of consumptive tendency, and the actual disease. He recommends a mixture of equal quantities of vinegar and water, at first tepid, and gradually brought down to its ordinary temperature, as the patient gains strength.

6. Studiously shun elevated spots of ground, and every place where the air is keen. Much exposure during an east and north-east wind must also be carefully avoided.

7. It is not one of my objects to recommend medicine in this volume, but one of the best medicines for the consumptive cough, is a strong decoction of coltsfoot and maiden-hair, sweetened with honey; of which the patient may take a tea-

cupful thrice a day. In making the decoction, these herbs should be used in equal proportions.

8. Fly from the use of much mercury, as from (to you) a deadly poison.

SECTION IV.

MAXIMS OF HEALTH FOR MEN OF LETTERS.

Habenda ratio valetudinis: utendum exercitationibus modicis; tantum cibi et potionis adhibendum, ut *reficiantur* vires, *non opprimantur*. *Cicero.*

1. Remember that the preservation of your health depends chiefly on daily attention to three things, viz. Exercise in the open air; a very moderate quantity of the most nourishing and digestible food; and sufficient sleep at night.

2. Nothing can supply the place of *exercise* in the open air. Without it, the body very soon inevitably grows languid, the circulation is impeded, the general nervous energy impaired, the digestive functions enervated and disordered, and the body becomes an easy prey to some chronic disorder. Hence arises depression of spirits, irritability of temper, pain

and confusion in the head, great weakness of stomach, and the other many distressing symptoms with which students and literary men are so often afflicted. Temperance itself is no safeguard against the mischiefs arising from deficient exercise.

3. The period for which exercise abroad ought to be taken *daily*, may be seen under that article at page 250. It should not be less than two hours in the morning, and an hour in the evening. A long walk of four or five miles out, once or twice a week regularly, is strongly recommended: to return after resting an hour, and taking some slight refreshment.

4. When in the house be as much in motion as possible. Have dumb-bells, and a couple of flesh-brushes, always at hand, that you may every half hour or hour, steal a few moments from your studies to exercise the superior extremities with the former, and the inferior limbs, and the head and neck, with the latter. When you can, as a change, run briskly up and down stairs several times, or use the shuttle-cock. Accustom yourself also to

read aloud for some time daily, out of any work before you: this promotes the pulmonary circulation, and has a favourable influence on the digestive organs.* Lord Bacon's advice to change the posture at least every half hour, is worthy of much regard.

5. In exercising the body, endeavour at the same time to get as much fresh air as possible. Therefore, when you cannot walk or ride out for any considerable time, throw open the windows of your study as often as you rise to exercise within doors; or go for a few minutes into the garden, and there use the shuttle-cock, or dumb-bells, or *fight with your own shadow*, (see page 248), taking care to leave the windows of your apartment wide open.

6. Be careful not to have your study over-heated at any time. Its temperature

* Many of the greatest men of antiquity were in the habit of reading aloud, for the purposes of health and strength. Pliny in the thirty-sixth epistle of his ninth book, after describing other practices of his, says, "*Mox orationem Græcam Latinàmve clarè et intentè, non tam vocis causâ, quam stomachi lego, pariter tamen et illa firmatur*"

ought not to be above 60°. If in the winter you feel chilly, it is far better to rise from your studies, and warm yourself by running up and down stairs, or other active exercise, than by heaping coals on the fire.

7. Your food must be small in quantity, and of easy digestion, for two reasons, first, because any tolerable degree of health cannot otherwise be preserved, under the sedentary mode of living pursued by all literary men; secondly, because it is essential to clearness of ideas. The quantity of solid and liquid food proper for studious persons, may be seen stated at page 127, and the best in point of quality, will readily be understood from a careful perusal of the chapter on diet. It should, however, be remarked, that in recommending a rather spare diet here, I do not mean to advise such as would debilitate. By no means. The ordinary pursuits of a literary man, with the confinement imposed on him, are, in themselves, sufficiently exhausting, and he ought, therefore, to increase and maintain his general

strength by every possible expedient, that is adapted to his pursuits. On ordinary occasions, his food should, consequently, be nourishing, although small in quantity.

8. When exhausted by intense thinking, do not endeavour to recruit your strength by wine, or any strong liquor, but get a new laid egg, beat the white and yolk together in a tea-cup, then put a table-spoonful of good sherry wine to it, with half a table-spoonful of water, and a little sugar, and drink it. Then take a nap for half an hour, or an hour. This plan will be found highly restorative.

9. In regard to sleep, Lord Mansfield's advice *to cultivate sleep*, ought never to be forgotten. Mental exertion is peculiarly exhausting to the body, and nothing so effectually removes this exhaustion as sound sleep. Indeed, sound repose is essential to the well-being of every literary character, and he who trifles with it acts a part little superior to that of a madman, for he does that which is not only undermining his constitution, but which will also certainly obscure his perception, and

weaken his judgment.* Besides, the man who has sufficient sleep, and in due season, can always get through much more work in a given time, than he who neglects his repose. See page 284.

10. Mark, the above refers to sleep *at night*. Laying in bed late in the morning, or sleeping in the day, will not make up for sitting up late at night. Ten o'clock is the best hour for studious men to go to bed at, and they may rise at four or five in the morning. If they rise at four, they will require an hour's sleep after dinner, because six hours sleep in the twenty-four is rarely sufficient for such persons; but it is best to take repose for seven hours, or seven hours and a half, at once, during the night, than to make up for its deficiency by a nap in the day.

11. Let your clothing be warm, but never oppressive. The feet and legs es-

* Most studious men are convinced that mental application carried on during the night, to the abridgment of their hours of sleep, is injurious to the health of the body; but they are not equally aware, that it is as certainly destructive to the most effectual exertion of the mind. This fact, if properly considered, cannot but have its due weight with them.

pecially ought to be kept warm, by wearing woollen drawers and stockings in the colder months. A flannel waistcoat is also of great service. Plutarch lived to a good old age, and strongly recommended all studious persons to guard their lower limbs well from cold.

12. In order the more effectually to promote a free circulation in the feet and legs through the day, use the flesh-brush for fifteen or twenty minutes, regularly every morning, on first getting out bed. The same practice should be pursued also at night.

13. Never read in bed, nor while walking for exercise. These are most pernicious customs, extremely injurious to the eyes, and the general health.

14. To preserve the eyes, bathe them well with cold water, on rising in the morning, and again in the evening. For this purpose have a large bason full of cold water, and stooping over it, with the eyes shut, apply the water freely to them, for 30 or 40 times successively.

15. Carefully regulate the bowels. If

possible, by diet and friction, but if recourse must be had to medicine, let it always be mild, and in no larger doses than are necessary just to exonerate the intestines. The pills No. 2, will be found very appropriate and pleasant in their operation. A proper regulation of the bowels, with daily exercise in the open air, will do much towards relieving and removing that irritability of temper, and general nervous irritation or uneasiness, under which literary characters are so apt to suffer.

WHEN CLOSELY ENGAGED IN COMPOSITION,

16. Pay still greater attention to the quantity and quality of your food, to exercise, and sleep; and to the regulation of the bowels. For as your mental exercises are then greater than at other times, so must your attention to the preceding means of promoting health and strength be also more exact, in order that the energies of your mind may be preserved unimpaired. The condition of the body

has a great effect on that of the mind, and it is, therefore, certain, that an author's composition will vary very much, at different times, if he neglects to attend to the rules now laid down.

17. When composing, I would recommend the following quantities of food. The kind of food most proper is likewise noticed, and the times of meals.

		Ounces.
Breakfast, at Seven.	Stale bread, dry toast, or plain biscuit, (no butter) . .	Three.
	Tea, (black) with milk and a little sugar. . . .	Six.
Luncheon, at Twelve.	An egg, lightly boiled, with a thin slice of bread and butter.	Three.
	Toast and water. . . .	Three.
Dinner, at Half-past Two.	Of Venison, Mutton, Lamb, Chicken, or Game, (Roast or Broiled). . . .	Three.
	Bread, (no vegetables). . .	One.
	Toast & Water, or Soda Water.	Four.
	White Wine, or Genuine Claret, (one small glassful). . .	One.
Tea, at Seven or Eight.	Stale bread, biscuit, or dry toast with very little butter. .	Two.
	Tea, (black) with milk and a little sugar. . . .	Six.

Total in the day, 12 ounces of solid, and 20 ounces of liquid food.

It will be seen from this table, that I

consider a smaller quantity of food advisable during the heat of arduous composition, than at any other time, and I have no doubt, that literary men and students will universally find a great advantage from adhering to these quantities, kinds and periods. It is well ascertained that a spare diet tends very much to augment delicacy of feeling, liveliness of imagination, quickness of apprehension, and acuteness of judgment. The majority of our most esteemed works have been composed by men whose limited circumstances compelled them to adopt very frugal repasts,* and we have much reason

* The great Tasso was reduced to such a dilemma, that he was often obliged to borrow a crown from a friend to subsist through the week: and the inimitable Cervantes is supposed to have almost wanted bread. The author of Gil Blas resided in a little cottage on the borders of Paris, and never knew what it was to possess any moderate share of the comforts of life; and the poet Spenser languished out his life in great distress. Even our incomparable Milton, as every one knows, sold his Paradise Lost for ten pounds to a bookseller, being too poor to undertake the printing it on his own account. It would be easy to multiply instances of the scanty repast to which many of our most illustrious authors have been compelled to submit, if the facts were not already too well known to render it unnecessary.

Dr. Franklin, in his earlier days, as I have already remarked, ate and drank very sparingly. His meal frequently consisted of only a biscuit, or a slice of bread and a bunch of raisins, with a

to suppose, that their scanty fare contributed in no small degree to the excellence of their productions. Indeed, under great mental exertion of any kind, it is always found necessary to observe a very spare diet. The gallant defender of Gibraltar, (General Elliott, afterwards Lord Heathfield,) for instance, lived for eight days during the Siege, taking only four ounces of rice a day, as solid food.

18. Do not neglect to take as much exercise as possible during this period. Authors act very unwisely to neglect this branch of regimen, because if the circulation of the blood, and other bodily functions, are preserved in a healthy state by exercise, (and they cannot be so preserved without it,) the mind must be proportionately invigorated, and the composition produced will be more uniformly excellent than it otherwise would be.

19. Seven or eight hours sleep in the twenty-four, I need not farther insist on.

glass of water; or, of a basin of gruel; and he mentions, that his progress in study was proportionate to that clearness of ideas, and quickness of conception, resulting from great temperance in diet.

20. Before you commence any particular study or composition, it is a good plan to clear out the bowels, and insure healthy secretions from them and the other digestive organs, by taking a mild purge, for which purpose I recommend twelve grains of calomel to be added to the aperient pills No. 2, of which one pill may be taken at bed-time. Men of letters cannot have a better aperient pill than this, and they may repeat the dose now ordered once a week, or as often as they find the stomach or bowels disordered. But when their very particular engagement has terminated, I should prefer the pills as described under rule 15, for common use.

SECTION V.

MAXIMS OF HEALTH FOR PEOPLE OF FASHION.

1. Your grand object should be to avoid that *delicacy of habit* which your mode of living has a natural tendency to produce, and which not only lays the foundation for the majority of your complaints, but renders you an easy prey to disease.

2. Endeavour, therefore, to preserve and augment your general strength, which will enable you to bear with less risk of injury, the heated rooms, light dress, late hours, and mental excitement, to which you are necessarily exposed; for our ability to resist the influence of injurious customs is always in proportion to our bodily vigour. It is true that your fashionable habits have a direct tendency to impair this strength, but there are means which you, as fashionable people, may use to counteract

this effect, and from a neglect of which you frequently suffer sooner and more severely than you need.

3. Be, then, as much in the open air as possible, every day between breakfast and dinner. You ought to be daily four or five hours in the air, and when in town, do not allow a little distance to prevent your breathing the fresh air of the country, for at least an hour of that time.

4. Take also much active exercise every morning, abroad. Beware of thinking exercise in a carriage sufficient for health. You should walk, or ride on horseback, for one or two hours daily. It is to be regretted, that riding on horseback is not more general among ladies in the higher classes of society, since, if the time so commonly spent in carriages, were devoted to horse exercise, it would very much conduce to the improvement of their health, and the prolongation of their lives.

5. When you go out in the day in a carriage, let it invariably be an *open* carriage. Endeavour, by your example, to make open carriages fashionable, at all

seasons, excepting when it rains, or is intensely cold. Those who accustom themselves to an open carriage, find it very beneficial to health, and dislike close carriages.

6. When in the house, make a practice of exercising for an hour daily, at any convenient time, by using the dumb-bells, shuttle-cock, &c. Friction with the flesh brush is likewise highly worthy of your notice.

7. In order that you may enter with spirit into the various exercises now recommended, both at home and abroad, remember that without doing so, it is impossible to preserve your health, and also, that in adopting these plans, you not only invigorate and prolong life, but improve the condition of your skin and complexion, (see pages 191, 345,) and add to the elegance of your carriage and figure, (see pages 334, 344). The celebrated Dr. Tissot has correctly observed, that if young ladies in polite life were brought to ride on horseback constantly, both their health, and external charms, would thereby receive advantage.

8. At meals be sparing in the quantity, and select in the quality of your food. Confine yourself to as few dishes as possible; and never eat between meals. The lighter wines are the best for you, particularly Claret, Hermitage, Barsac, and Hock; and of these, the less the better.

9. You require seven hours and a half, or eight hours sleep, in the twenty-four. Get that between eleven and seven o'clock, when not engaged in company; and when so engaged late, retire to bed *immediately* on returning home. After having been much excited, if you find you cannot sleep, rise from the bed, and use some of the means detailed under the section on sleep, at page 263, more particularly washing the feet in warm water, or cooling yourself and the bed effectually, as advised at page 295.

10. Always wear a *stomacher* or *pectoral* of clean warm flannel. In winter it may be double.

11. Keep the feet and legs warm. Woollen socks are highly advisable. If they are thought to increase the size of the

feet too much, wear thick flannel along the sole of the shoe, and particularly in the evening. It is a most pernicious practice to wear warm stockings and shoes in the day, and those that are thin at night, on account of the great difference of temperature thereby occasioned. Woollen drawers are much to be recommended.

12. To avoid colds, to which your habits render you very susceptible, and which frequently lay the foundation of obstinate complaints, accustom yourself to the use of sponging with lukewarm or cold water, every morning, on first getting out of bed. As remarked under *Maxims for the Consumptive*, it should be done quickly, and followed with a good deal of rubbing with a rough towel. It has considerable effect in giving tone to the skin, and maintaining a proper action in it, and thus proves a safeguard against the injurious influence of cold, and sudden changes of temperature. Therefore, a person who is in the habit of thus fortifying the skin will be much less likely to suffer injury from the heated rooms, and the change

from a hot room to the cold air, to which all fashionable society is much exposed, than those who neglect it.*

13. When you go from a warm room into the cold air, always put on *a good deal* of additional clothing, and let it, if possible, come down to the feet.

14. When heated, beware of the active use of *fans*. A very gentle use of them can hardly be injurious, but if freely employed under a state of perspiration, they will seldom fail to check it, and thereby to occasion an unfavourable change in the skin of the face and neck. They often cause pimples in the face and neck, and injure the complexion.

15. Be particular in regulating the bowels, by diet, or *very mild* medicine, as the pills, No. 2.

* Sir Astley Cooper says, "The methods by which I preserve my own health, are temperance, early rising, and sponging the body every morning with cold water immediately after getting out of bed, a practice which I have adopted for thirty years; and though I go from the hot theatre into the squares of the hospital, in the severest winter nights, with merely silk stockings on my legs, yet I scarcely ever have a cold."

Surgical Lectures, No. IV.

SECTION VI.

HINTS AND RULES FOR EUROPEANS RESIDENT IN THE EAST INDIES.

1. The grand secret, or fundamental rule, for preserving health in hot countries, is, *to keep the body cool.*

2. Attend to the usages of the best informed natives, adapting them to your own habits, as much as European and Oriental customs can assimilate.

3. Rise early, and retire early; take morning exercise in a carriage, or on horseback, but carefully avoid getting the feet wetted with the morning dew.

4. Take exercise again in the evening, but studiously avoid it in the heat of the day. Be careful that you are not injured by the evening dews. An incautious exposure to them in hot climates, is a fruitful source of fatal diseases.

5. Daily shampooing and friction are highly conducive to health.

6. Never let your exercise be immoderate, but while in motion, have no dread of perspiration even to excess. Those who, unfortunately, do not perspire freely, generally soon fall victims to a climate, whose heat almost always produces copious perspiration, even under a state of rest.

7. When under a profuse perspiration, avoid sitting down in cool or cold situations, and, more especially, if exposed to a draught or current of air.

8. Shifting in India four or five times a day is usual. When strong perspiration has been excited, shift; taking care to rub the body well with clean, and rather coarse towels. But linen thus soiled should not be directly consigned to the wash, but be carefully dried, and *worn again*, once, or even twice. This is no infringement on the laws of personal cleanliness, while it has a very salutary effect on the health, because the linen so treated is much less exhausting to the skin, than

that which is fresh from the mangle.* This is more particularly worthy of attention from the newly-arrived European, whose skin is highly excitable.

9. Breakfast early, and partake moderately of tea or coffee, with dry toast, stale bread and butter, or biscuit. A little rice, or fish, with curries, occasionally, will not be objectionable, but flesh meat should be avoided.

10. At dinner eat and drink moderately, of the most wholesome and digestible solids and liquids. Avoid ham, tongue, and all such indigestible articles, but partake in moderation of curry—a dish *never* absent from the table of the natives. Always pass by rich made dishes. The best hour for dinner is two o'clock.

11. If compelled to dine late, your repast should be proportionately light. In this case, you will require your *tiffin* between twelve and one, which should

* This practice is strongly recommended by Dr. James Johnson, a distinguished member of the profession, who spent some years in India, and has written most ably on the diseases of that region.

consist of light curries, or the like, with a glass of wine, and a little fruit.

12. Abstain from eating at supper, any thing beyond a little fruit and a biscuit.

13. During the first year's residence, the indulgence in fruit must be very limited. An early excess in this respect, always lays the foundation of slight disorders in the stomach and bowels, and often paves the way for dysentery, and other very severe diseases. The pine-apple and mangoe, in particular, must be eaten very sparingly at first. It is an excellent practice always to eat a little stale bread, or biscuit, with fruit.

14. A little wine is perhaps necessary under the exhausting influence of an eastern sky, but it should be only a *little*, and the kind used is important. Madeira, Sherry, Hock, Claret, and Hermitage, are the best sorts. A mixture of wines is improper. Malt liquor appears unsuitable, unless where much exercise is taken. All spirits are rank poison.

15. Avoid eating and drinking in the

course of the forenoon, or between breakfast and an early dinner. If water, cooled by means of saltpetre, be required to allay thirst, let such not be drank when perspiring freely. A settlement remarkable for mortality, became healthy when the inhabitants abstained totally from drinking sangaree and punch in the forenoon; as these pernicious beverages excited a derangement of the liver and intestines, productive of remittent fevers and agues, too frequently followed by fatal malignant disorders.

16. An hour's sleep after an early dinner, is a refreshing indulgence, required by the nature of the climate.

17. Every second morning, bathe the whole body with cold water, and follow the native plan, of throwing the water on the head, by means of a small bucket, wiping perfectly dry after it with a coarse towel. The bath is very refreshing on rising unrecruited from a bad night's rest; and powerfully obviates that train of nervous symptoms, so universally complained of by Europeans between the tropics. The

tepid bath is preferable for such as have long resided in India, and for those who have a fixed liver complaint.

18. Never bathe after having been out, and brought on perspiration, either by walking, or any other exercise. In such a case, be content with rubbing the body well with clean towels, or with a corner of a towel wetted with lukewarm water.

19. On such mornings as the bath is not used, sponging the body with cold water, is highly advisable.

20. On getting unavoidably wet, keep in motion until you get to your own house, or that of a friend. Then shift *instantly*, and let your skin be well wiped with a dry towel; but by no means rub the body with any spirit, or take any internally in the form of punch, toddy, or in any other manner. The best cordial, in this case, is a little warm tea, coffee, or broth.

21. On being sensible of any unpleasant taste in the mouth, or on experiencing any thing like a shivering lassitude; or any pains in the arms, or limbs, apply directly

for medical advice; or, in its absence, take a pill composed of three grains of calomel and five grains of compound extract of colocynth, and lessen the quantity of your food, especially of animal food and wine.

22. Cotton and woollen garments are the best for Europeans in India. Linen must be given up. See page 306.

23. While travelling in any hot climate, invariably lessen your ordinary quantity of animal food and wine, at least, one-half. If your resolution will extend so far, give up wine, and all fermented or spirituous liquors altogether, at that time.

SECTION VII.

HINTS AND RULES FOR EUROPEANS RESIDENT IN THE WEST INDIES.

Most of the rules given under the preceding section, are likewise applicable here, but we may with propriety add the following. It should be observed, that more care is necessary, to preserve health and prolong life in the West India Islands than in India, a fact which Europeans residing there will do wisely to remember, and attend to.

1. On landing, keep out of the heat of the sun; or, when out of doors, use an umbrella. For some time, walk at leisure, and take no violent exercise in the heat of the day. *When a man is much fatigued, sickness is at hand.* In other words, he is liable to a remittent fever, to receive contagion from miasmata, arising from salt marshy grounds near the sea.

2. It is particularly necessary here, to avoid being chilled after having been heated, and to be careful of the evening dews.

3. On your arrival take some aperient medicine once a week, for the first month. Your medical attendant will direct the kind and quantity; but if he is not at hand, take three grains of calomel mixed with two grains of James's powder, and four grains of compound extract of colocynth, made into two pills, with a little syrup.

4. Your diet should be particularly sparing the first year, as advised under the preceding section, which consult also as to the proper exercise, bathing, and clothing. The fuller your habit, the more sparing must be your diet, and the more you will require purgative medicine.

5. There are a number of excellent fruits in all the Islands; take care they are fully ripe; and eat little of them at a time, in the morning or afternoon.

6. If you have a choice, take a house on a rising ground, remote from swamps.

The low lands near the sea are generally very unhealthy.

7. Strangers are much tormented with musquitoes, but after some time pay no attention to them. Be sure, at night, to draw down the musquito-net close all around, and brush it well inside with a large towel, to kill such musquitoes, as may still be there.

8. Chigres are a species of flea, that burrow into the feet and toes; at first they occasion an itching, and then a little red lump, which becomes painful. A negro is the best hand to pick them out; and a little snuff may be put into the cavity.

DIRECTIONS PROPER TO BE OBSERVED DURING THE VOYAGE, EITHER TO THE EAST OR WEST INDIES.

1. Remember that you are going from a temperate to a very hot climate, the injurious effects of which are felt most by those of a full habit, and those who are unseasoned. The time spent in the

voyage, should, therefore, be a period of *preparation* for the climate you are about to enter into.

2. This *preparation* mainly consists in being very temperate in diet, and keeping the body cool. By a habit of *temperance* and *coolness*, you will effectually prepare yourself for entering an exhausting and dangerous clime with safety, and comparative comfort; while an opposite practice will inevitably expose you to numerous inconveniences, and much danger.

3. Therefore, take little animal food on ship-board, and less wine. Spirits should on no account be taken, even with water. Whatever animal food you take, let it be fresh. Fish forms a desirable article of diet in this case. Vegetable soups are likewise excellent.

4. Avoid costiveness. A vegetable diet will tend to keep the bowels regular, but if it be ineffectual, take a little sea water, or salts, or the black draught, occasionally. As you approach your destination, a dose or two of the pills of calomel and

colocynth, as directed above at maxim 3, page 386, will be useful.

5. Take care that the live stock be regularly fed, and kept clean, otherwise they will soon be in a diseased state, and die; or, if killed, not fit to be brought to the table.

6. To moderate sea-sickness, sit at all times in good air, and be as much upon deck throughout the day as possible. After each fit of vomiting, take a small basin of tea, water-gruel, or broth. A little ether, or Hoffman's Anodyne Liquor, is sometimes very useful in allaying this sickness; half a tea-spoonful, or more, may be taken in a little water occasionally.

STOMACHIC PILLS, No. 1.

Take of

Best Rhubarb, in powder, half a drachm.
Ipecacuan, in powder, half a drachm.
Castile Soap, one drachm.

Mix them well together, and, with a sufficient quantity of syrup of orange peel, make them into a mass, and divide into thirty pills. One to be taken thrice a day, in indigestion and bilious affections, to give tone to the stomach and bowels, for which they are very effectual.

APERIENT PILLS, No. 2.

Take of

Compound Extract of Colocynth, half a drachm.
Compound Rhubarb Pill, half a drachm.
Tartarized Antimony, two grains.
Oil of Carraway, four drops.

Beat them together into a mass, adding a little syrup of orange-peel, if necessary, and divide into twelve or fourteen pills. One to be taken at bed-time, when confined in the bowels.

ALTERATIVE PILLS, No. 3.

Take of

Calomel, thirty grains.
Tartarized Antimony, four grains.
Guaiacum, in powder, two scruples.
Opium, in powder, two grains.

Rub these ingredients well together, then form them into a mass with conserve of hips, and divide it into thirty pills. One to be taken every night.

THE END.

J. DAVY, Printer,
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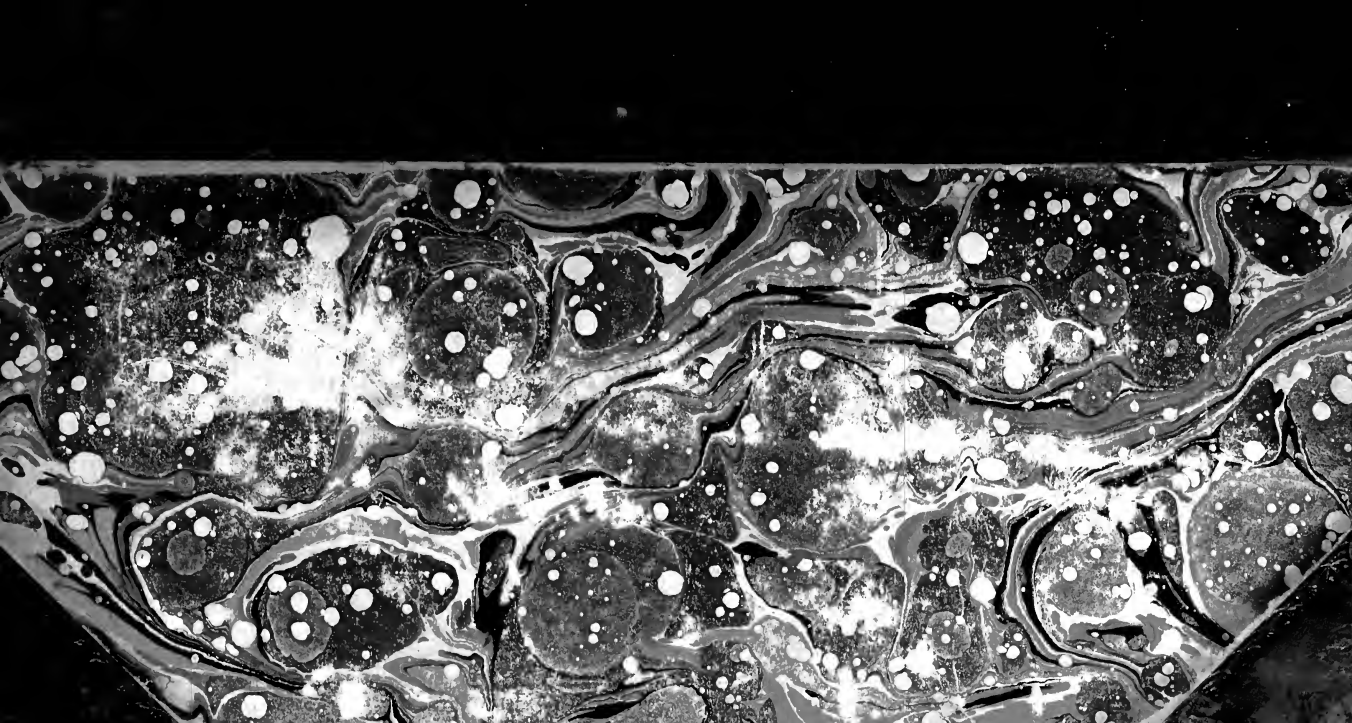
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